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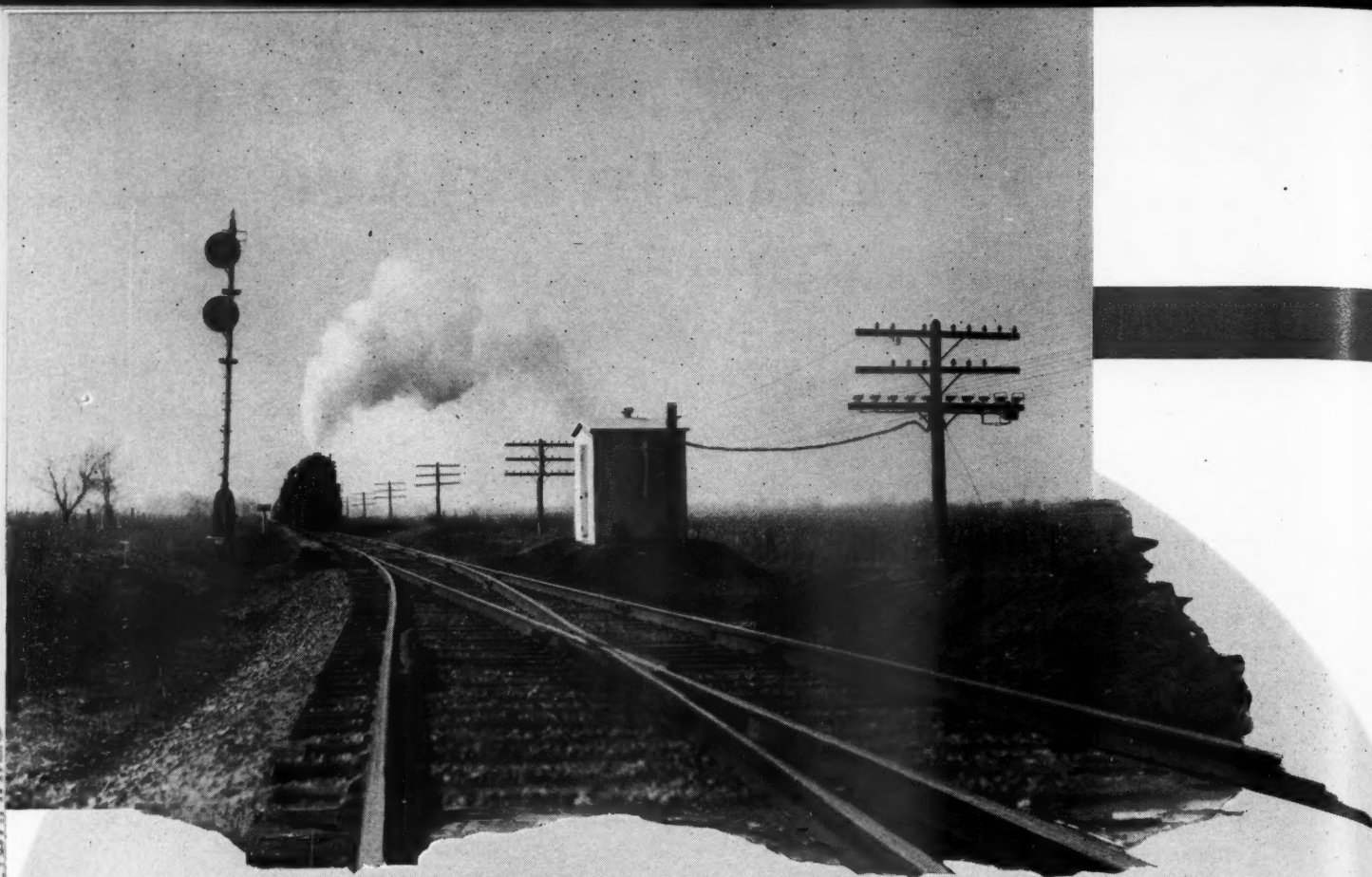
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RAILWAY AGE

Railroads Not Ready for War Even if U. S. Stays Out

In 1914, when the last great war broke out in Europe, the railways of the United States transported 285 billion ton-miles of revenue freight. In 1915 there was a slight recession in freight traffic, but in 1916 the demands of the warring nations on the United States as a source of supply began to mount—so that in that year our railroads were called upon to handle 340 billion ton-miles of revenue traffic, an increase of 19 per cent over 1914.

War Brought 40 Per Cent Traffic Rise

In 1917 and 1918, with America in the war, the demands on the railroads rose even more—ton-miles being 38 per cent more in 1917 and 42 per cent more in 1918 than in 1914. And, as will be remembered, the railroads in 1917 and 1918 fell far short of delivering all the transportation demanded of them. Congestion, delay, embargoes, priority orders—are still a vivid recollection of all persons whose experience comprehends that period. Following the war, in 1920, the volume of traffic was even greater and the congestion worse.

Yet our railways approached the 1914-18 war crisis in far better shape than they are in today. In the decade ending with 1914 they had acquired an average of 3,580 locomotives and 179,000 freight cars *each year*. In the decade ending with 1938 their annual acquisitions of locomotives averaged only 462 and of freight cars only 48,000—a decline of 87 per cent in the renewal rate of locomotives and of 73 per cent in that of freight cars. Even when allowance is made for the greater capacity of modern locomotives and cars over those of the pre-war period, the present-day discrepancy is one of alarming proportions.

In 1914 they had 30 per cent—or 20,000—more locomotives and 40 per cent—or 657,000—more freight cars than ten years before. In 1938 they had 26 per cent—or 16,000—*fewer* locomotives and 26 per cent—or 600,000—*fewer* freight cars than ten years before. During the decade before the last great war began in Europe all their properties had not only been fully maintained, but had been improved and expanded by an increase in their total investment averaging 550 million dollars annually. During the last ten years their proper-

ties have been undermaintained and there has been virtually no increase in their total investment.

Truck Traffic Might Be Dumped Back on Railroads

What demands would a war in Europe put on American railroads—and what further demands would arise if America later on joined the war? Certainly the kind of war being waged nowadays requires at least as much in the way of materials as that of 25 years ago (and probably even more). Well, the war in Europe, without our being in it, contributed toward a sufficient upturn in American business to require the railways in 1916 to handle 19 per cent more freight traffic than in 1914. And following our entry into the war our railroads rendered 40 per cent more freight transportation service than in 1914 in a most unsatisfactory manner and without fully meeting the demands on them.

Of course, we now have truck service and competition which we did not have in the war years. **The presence of truck competition, however, is likely to increase the peak of traffic thrown on the railroads in a time of crisis rather than diminish it.** This follows (1) from the ease with which trucks can be taken out of the general transportation business if a more profitable employment can be found for them, as would almost certainly be the case in time of war, and (2) from the shortage of man-power which would tend to curtail the use of trucking and other methods of transportation demanding a maximum number of employees, and a shift to a means more economical of human labor.

In other words, if hostilities should become general in Europe we should expect the demands of traffic on the railroads to increase, not merely 19 per cent, as before America's entry in the last war, but considerably more than that. Moreover—if America were drawn into the conflict, the increase in the demands on the railroads would quite likely exceed the 40 per cent increase which occurred when we joined the last war. And it should be noted that these estimates of probable increases in traffic due to war take no account of the fact that general business in this country was far less depressed in 1914 than it is now, and consequently had far less

capacity for quickly expanding its production. The volume of business in 1914 was the largest in history up to that time excepting in 1913. In 1938, on the other hand, industrial production was one-third below the normal pre-depression level, indicating that the country's industrial plant had 50 per cent more productive capacity than was utilized.

Assuming, however, that the increase of traffic demands upon the railways would be no greater than during the last war, in what condition would they be to meet such increased demands?

Cars Now Fewer and Much Older Than in 1914

From the standpoint of car supply, the railways are in no position to handle any such increase in traffic as that which occurred between 1914 and 1916. In 1914 they had 88 million tons of freight car capacity and in 1938 only 83 million tons—6 per cent less. Moreover, in the decade ended with 1914 the freight car inventory was a much newer inventory than that on hand today. The total new freight cars acquired in the past ten years is less than 27 per cent of the present inventory, whereas the cars purchased in the decade ended 1914 totaled 78 per cent of the total cars in service at the end of that year. Thus we face a situation similar (but more serious) as to traffic prospects to that which confronted the railroads in 1914—and we go into this period with a depleted car supply and one much older on the average than that which the railroads had in 1914.

The antiquity of the present locomotive inventory—as a measure of the railways' ability to meet the demands of a war crisis—is even more serious than that of their freight car equipment. In the decade ended with 1914 total acquisition of new power was 57 per cent of the entire inventory of locomotives on hand at the end of that period, whereas in the past 10 years the total of new locomotives acquired has been only about 10 per cent of the present locomotive inventory.

The Railroad Army Needs Modern Weapons

The American railroads would have to replace about 20,000 of their existing locomotives and more than 900,000 of their freight cars with new ones if their inventories were to be restored to the age condition which existed when they entered the war period of 1914-18. Cars and locomotives are the railroads' weapons of war. The last war showed that even the newest of these weapons were none too adequate to enable the railroads to hold up their end of the conflict. But today they are facing a similar crisis armed, so to speak, only with muzzle-loading flintlocks and brass cannon.

Apart from the relative antiquity and consequent condition of railroad equipment, there is a question as to the actual *physical capacity* of the railroads to handle an increase in their freight business comparable to that which occurred subsequent to 1914. Ordinarily such

a comparison would be difficult to make after the lapse of so many years—because a job which represented an achievement 25 years ago would not necessarily be so difficult of accomplishment with the methods and materials of the present. It is fortunate, however, for the purposes of such comparison that two recent years have shown almost exactly the same volume of freight traffic as did 1914 and 1916. Revenue ton-miles in 1938 were quite close to those of 1914 (290 billions in 1938 and 285 billions in 1914). In 1936 revenue ton-miles were almost exactly the same as in 1916 (approximately 340 billions in each year). From our actual 1936 experience we know that, even under today's methods of railway operation, the supply of car equipment in serviceable condition in that year was barely sufficient to meet the requirements of shippers (there were a few shortages here and there in that year). And yet—the freight car inventory at the end of 1938 was 3,000,000 tons (equivalent to about 75,000 cars) less than it was in 1936.

The experience of the last war indicates that, even without American participation, a general European conflict could scarcely fail to bring railroad traffic up to the level attained in 1936. And 1936 experience indicates that the railroads cannot get along safely without at least as much freight car capacity in serviceable condition as they had in 1936. Leaving the question of the antiquity of the inventory entirely out of account, therefore, it appears evident that a general conflict in Europe—even without America's participation—would make the acquisition of some 75,000 new freight cars an imperative necessity.

Huge Repair or Replacement Program Required

The situation of the locomotive inventory (judged purely on the basis of aggregate tractive force and not on its relative economy) appears to be somewhat less acute. That is to say, the total pounds of tractive force available is greater than that of either 1916 or 1917 (counting, however, unserviceable as well as serviceable locomotives). On July 1 the railroads had over 7,000 freight locomotives and 227,000 cars in the shop or awaiting repairs. This quantity of bad order equipment would represent an abnormally high ratio for a period of rapidly rising traffic. To meet the prospect of such a rise in traffic, therefore, at least 2,000 of these locomotives and 110,000 of these freight cars, now out of service, should be either quickly repaired or replaced by new equipment (probably the latter, in view of the excessive antiquity which has crept into the equipment inventory).

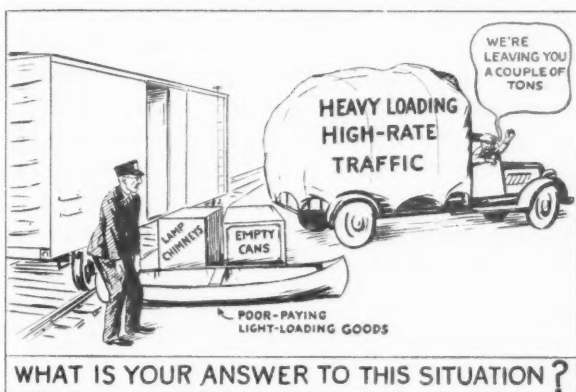
The foregoing calculations leave entirely out of account the possibility that America might be drawn into the war. In that event, the railroads could scarcely expect to be called upon to handle less than the 405 billion revenue ton-miles which they actually did handle in 1918. What would such traffic mean in the way of equipment requirements? Well—the best commercial

utilization of either locomotives or cars which the railroads have achieved in recent years occurred in 1929. In that year each million pounds of tractive force of railway motive power produced 175 million revenue ton-miles. At that rate, the carriers would need an aggregate of 2,310 million pounds of tractive force—or 181 million pounds more than they now have—to handle traffic equivalent to that of 1918. Translated into

locomotives of 75,000 lb. tractive effort each, this means that the railroads would need over 2,400 new locomotives merely to give them *required capacity*. Similarly, on the basis of 1929 car performance, to handle the volume of traffic which the last war brought the railroads would require about 95 million tons of freight car capacity, or about 12 million tons more than they now have. Translated into 40-ton cars, this would mean

What Will the Traffic Bear?—29

Where did the so-called "romance" of railroading come from and where is it now? This quality—which the railroads a generation ago were as full of as a bee-hive is of honey—was the "come-on" for the nation's ambitious youth. As youngsters, they



dreamt of getting away from hum-drum life on the farm and into the service of the railroads where life was exciting, because it was eventful—even though dangerous. People weren't so set on "security" in those days. They lost their jobs quickly but they found new and better ones just as fast. Out of the willingness to experiment—to take chances—came progress. The railroads prospered, and their customers prospered with them.

What has happened to all this human interest in this industry? Where has its *life* gone (for life and change are synonyms—changelessness is death)?

A generation or so ago railroad men were not afraid of new ideas. There was then none of the caution which demanded "two to one in government bonds, plus your right eye" as collateral security for every risk.

The railroad men of a generation ago were not trying desperately (and unsuccessfully) solely to hang onto something they already had. Instead they were out 24 hours a day to find new ways of getting traffic on the rails. And they found new ways.

Starting out in a small area with a small volume of high class traffic, with high rates, they constantly expanded into new fields, penetrating new areas, increasing the volume of traffic with successively lower rates, tapping successively lower strata of

traffic. The business they built with such rates was partly drawn from previously existing (but less efficient) means of conveyance, but it was largely *created out of nothing* by a vigorous railway industry. **Alertness, vigor and willingness to take chances are just as much the key to progress today as ever they were.** Such qualities, combined with the railroads' economic superiority over their competitors, could revive railroad earnings and restore public confidence in the industry. Can anyone suggest any other path to railway revival which promises any hope of success?

As another example of the opportunity the railroads' petrified rate structure affords for trucks to take away the cream of their traffic: Nearly 20 per cent of the less-truckload merchandise items weighing 20 lb. and over per cu. ft. are rated first class. A minimum truckload of this traffic will net \$160 in Official territory for a 200-mile haul. Approximately 5 per cent of the items weighing 15 to 20 lb. per cu. ft. are rated fourth class. A truckload of this traffic will net \$65. Over 30 per cent of the items weighing 10 to 15 lb. per cu. ft. are rated third class. A truckload of this traffic will net \$70. More than 25 per cent of the items weighing 5 to 10 lb. are rated third class. A truckload of this traffic will net \$42. More than 30 per cent of the items weighing 0 to 5 lb. are rated third class. A truckload of this traffic will net \$14. Under a fair trucking cost-plus-profit scale, a truckload of any of this traffic would net approximately \$110. Did anyone ever hear of a truck soliciting a truckload of traffic that would net only \$14 for a 200-mile haul? You have only to explore the average truck terminal to find that the \$160 traffic predominates. The situation in the south and west is even worse.

No idea, however brilliant, can succeed forever. As conditions change ideas must change too. Unless an industry continues to feed new ideas into the hopper and act upon them, some competitor is bound to come along and, recognizing the static condition of the somnolent industry, begin to take away its business.

The profitability of the idea behind the railroad pricing structure reached its zenith more than a decade ago, and has declined rapidly ever since. It was a good idea in its day—but so was the diamond-stack wood-burner and the link-and-pin coupler.

that approximately 300,000 new freight cars would need to be acquired, merely to give the railroads the necessary capacity to handle the traffic.

"Preparedness" Means 2,400 More Locomotives, 300,000 Freight Cars

We conclude, therefore, that, should hostilities in Europe become general, the railroads are likely to need almost immediately a large increase in their freight car supply and, furthermore, that if America wants any insurance whatever in the way of preparedness for the possibility that we shall be drawn into the conflict, then 2,400 locomotives and over 300,000 freight cars will be needed—merely from a standpoint of capacity alone, efficiency and economy not considered. If economy is taken into account, then more cars and locomotives than these will be needed. And, of course, it is not only in cars and locomotives that the railroads are far less prepared for the exigencies of war than they were in 1914; almost every aspect of the railroad plant is similarly unprepared.

The reason is not far to seek. The railroads have been for years and are today virtually a bankrupt industry, whereas, by comparison, they entered the last war in a well-nourished condition.

The interest the government is showing in the merchant marine, in the Navy, in the training of soldiers and otherwise indicates a concern about the international situation far deeper than that manifest in this country in 1914 and immediately thereafter. Only with respect to the railroads do our national defense authorities appear to be asleep at the post—possibly because they are considering only the tonnage of government materials which would result from war activities, and not taking into account the increased demand of all shippers for transportation and the further probability of a large diversion of motor traffic back to the railroads.

A. A. R. Should Put Problem Up to Government

The present condition of the railroad industry is due both to the depression that came under Mr. Hoover and to President Roosevelt's New Deal policies of increasing its operating expenses and taxes out of all proportion to the increase in its gross earnings. President Roosevelt promised the Committee of Six appointed by him to support any legislation helpful to the railroads on which its members agreed, but he has not kept this promise. Congress had plenty of opportunity during its last session to pass legislation helpful to the railroads, but did not do so. We believe the Association of American Railroads should immediately and forcibly bring to the attention of the President, members of Congress and the American people the railway situation now existing principally because of past and present government policies, and should urge that there shall be no more postponement than is absolutely necessary of

thorough and competent consideration and action regarding what the railroads need and must have if they are to play their part if and when war comes. **If the railroads are caught unprepared, railroad management should see that the public is not misled as to who is responsible for their unpreparedness.**

Find "Pay Dirt" in Figures

How basic records which every railroad has available may be quickly, regularly and inexpensively made available to all operating officers, so that operating expenses may be held down to a close relationship with operating revenues—such might be the title of the article appearing elsewhere herein, written for us by E. H. Bunnell, vice-president of the accounting division of the A. A. R. (Mr. Bunnell is not writing, so to speak, *ex cathedra* from his position with the A. A. R., but solely as a student of accounting methods and possibilities—bottomed upon his experience as chief accounting officer of the Frisco and auditor of disbursements of the Santa Fe.)

As it is with everything else on the railroads—some carriers are getting a great deal more for the money they spend for accounting service than others are. This article relates how one road is getting a great deal of material of the highest value to its executive and operating officers for a very little expenditure of money and effort by its accounting department. We have no thought that every railroad will find it desirable to ask its accountants for exactly similar information, assembled in exactly the same manner. However, where the Frisco practice herein described cannot serve as a model, it can at least serve as a suggestion. That is to say, if the Frisco can get *this* type of information so readily from its accountants, probably yours could give you a different sort just as readily.

Implicit in Mr. Bunnell's presentation is the thought that, whatever type of quantitative information the railroads require—it is the accounting department which should be called upon for it. When each department undertakes to do all its own "bookkeeping" there is bound to be a great deal of costly duplication of effort. Moreover, when "bookkeeping" is done by several departments—each according to its own method—the results arrived at may not harmonize. The accountant has been likened to a score-keeper—and in any game where scores are kept, it is clearly desirable to have one man to do the score-keeping for all. This is true even where the competition is friendly (as it is among the several departments on a railroad). There is no better assurance that it will remain friendly than the lack of opportunity for inter-departmental disagreement over quantitative facts; the accountants will already have provided *that* much agreement among the departments before any discussion takes place.

This is perhaps the chief advantage to be derived from calling on the accounting department for all such information. But there is one other advantage which should not be overlooked. That is, when one department is doing all the "bookkeeping," it can do the job much more economically than when the task is scattered throughout a whole railroad organization. This is true even where accounting work is decentralized—but it is beyond all question where centralization of accounting permits the use of highly specialized machinery. There may be good and sufficient reasons other than the economy of calculation for keeping accounting decentralized. But where such reasons do not exist, it is obvious that such degree of centralization as is necessary to permit mechanized methods could scarcely fail to cut down the cost of necessary figures.

It goes almost without saying, of course, that when accountants supply information to other departments, the departments which use the figures must be the judges as to the adequacy of the figures supplied. Nothing can so effectively scatter statistical operations throughout all departments as insistence by an accounting department on supplying its idea of the information other departments should have, rather than giving the other departments the kind of information which they believe they need.

Some more examination of the possibilities of the accounting department—how its services can be better utilized to improve the over-all efficiency of the railroad, and how it might perform its functions more economically—would be a profitable enterprise for some (perhaps indeed a great many) railroads.

Crossing Protection for a Town

As towns have developed along the railroads they have normally been built up on both sides of the tracks, with the result that streets extend across the tracks at almost every block. Perhaps a third of these streets have developed as business thoroughfares or through streets and have been paved. At many of the crossings some form of special protection, such as gates, bells or signals, has been installed, while the remainder are protected by standard cross-buck signs which mark their location for pedestrians and drivers of vehicles.

The larger part of the motor vehicle traffic moves over the paved street crossings. In many instances, even for trips that would be shorter over the unpaved streets, drivers detour over the longer route in order to use a paved street. Nevertheless, a few movements continue to be made over the crossings on the unpaved streets and in far too many instances these drivers are more careless than when using a paved street crossing, with the result that accidents continue to occur.

Under such circumstances, a logical procedure is to develop co-operative action between city officials, state highway commissioners and railroad representatives to

bring about the closing of those crossings which are used infrequently, and to install automatically-controlled protection at the remainder. At crossings where pedestrian traffic is a factor, walk-way crossings can be left and automatically-controlled bells can be provided.

Studies in towns where such changes have been made, as well as investigations of proposed projects of this character, prove that the inconvenience caused to drivers is of such small consequence as to arouse very little criticism. On the other hand, the public derives a great benefit, not only by expediting traffic over the crossings but also by improving safety materially. With controlled protection in service at all crossings the railroads can quite logically be permitted to increase the speed of their trains when passing through the municipality.

In some instances the replacement of manually-controlled gates by automatically-controlled protection or centralized part-time manual control effects economies in operating expenses sufficient to off-set part of the cost of the installation, as well as the increased maintenance and operating charges. Furthermore, in many instances such projects can be included in the programs of the states that are being financed by federal funds appropriated for the improvement of safety on highways.

Peter, Paul and the Barges

"Peter gets robbed to pay Paul whenever the government dredges out some old creek and calls it a navigable stream. At first, people generally think it's a great thing. Aren't water rates a lot lower? Of course they are, with the government paying for the dredging and upkeep—out of the taxpayers' money—and of course it costs less to operate a barge and a steamboat than a locomotive and cars that have to run on a track.

"But what happens? The railroads are forced to compete with the water rates, even if it means a loss, which it always does. So they make competitive rates to the so-called river towns and keep the business away from the barges. The rails can always do this because no matter how people howl about low rates they still want service and service is something the barges are fresh out of.

"So the railroads do all of the shipping of the river towns in spite of the waterways, but at rates so low they lose money on each shipment. Then what? Well, out here in Kansas and other midwestern states is a lot of territory that doesn't have waterways. Let these people pay higher rates to make up for what is lost in competing with the water rates. They helped to pay for dredging the creek in the first place along with the railroads and all other taxpayers. Let them keep on paying.

"And so it is done. Peter, the Kansas farmer, Peter, the Kansas retailer, manufacturer, laboring man, professional man, consumer, gets less for what he sells, pays more for what he uses, all for the benefit of river-town Paul.

"For which don't blame the railroads. They are victims, too, fighting for existence and can't help themselves. The real remedy is to place the waterways under regulation, just as the rails and trucks are regulated. Thus they could be required to charge rates commensurate with proper costs without benefit of subsidy by the taxpayers. As it stands they ship comparatively little merchandise, create an intolerable condition for the interior."

From the Wichita (Kans.) Magazine.

Heavier Rail—

Its Effect on

Study based on experiences of 39 roads shows that increased weight brings substantial reductions in maintenance expenses

THE effects of heavier rail on track labor are both direct and indirect; this labor is also affected by numerous factors that are independent of the weight of the rail, while some effects of heavier rail, such as that exerted on the life of ties, can be determined only after a considerable number of years. For these reasons, the effect on track labor of increasing the weight of rail cannot be stated statistically without making certain assumptions that are not universal in their application because of the widely varying conditions under which rail is employed.

The committee's study covered a total of 39 roads in the United States and Canada, having a combined line mileage of 226,000. The survey of these roads indicated that while a few of them adopted sections heavier than 100-lb. as far back as 1916 and 1917, the 85, 90 and 100-lb. sections predominated to and including 1920. From 1921 to 1929, however, there was a marked trend toward the adoption of sections heavier than 100 lb. Some roads went directly from 85 and 90-lb. rail to weights of 110 lb. or heavier, while others stepped up to 100 lb. and later to the heavier sections. In general, those roads that had adopted 110 and 131-lb. rail during this period changed to the 112 and 131-lb. sections in 1934 or 1935. A few roads did not begin to lay rail

heavier than 100 lb. until 1930 or later, while others that were using the 110 and 112-lb. sections also began to use 131-lb. rail on curves, on heavy grades and on lines of densest traffic.

Light Rail Not Standing Up

In general, in arriving at the decision to increase the weight of rail, no consideration was given by the roads under study to the possible savings in track labor, or at most this was a secondary consideration, although every road studied expected that some savings of this character would result. With few exceptions, the primary reason was that, with increasing axle loads and higher speeds of operation, the lighter rail was not standing up, so that stiffer track became a necessity regardless of other considerations. Most of these roads foresaw that with the still heavier wheel loads and higher speeds that were expected, the amount of labor necessary to keep the track to the desired standard, together with all other costs for track maintenance, would increase unless they adopted heavier rail. Several roads based their decisions to use heavier rail on studies showing that the life of the rail could thus be prolonged sufficiently to make the added investment economical on a capitalized yearly cost basis, and ignored the possible favorable results on labor costs and on costs for other items of the track structure.

High Speeds Increase Need for Heavy Rail

Obviously, in the cases which have been mentioned the original installations of the heavier rail were confined to districts having the greatest density of traffic, and on not a few roads they were not extended beyond such districts, lighter sections still being purchased for use on primary lines of lighter traffic. Beginning with 1934, however, a new factor was introduced with the sharp increases that were made in the speeds of both passenger and freight trains, for smooth-riding track and assurance against track defects that might endanger safety at high speed have become paramount on those lines over which high-speed trains are being operated. For this reason, there has been a noticeable trend toward the extension of heavy rail sections to lines of lighter traffic. Thus it was possible to study the effects of heavier rail on track labor under a wide variety of conditions.

Owing to the increase in stiffness, both vertically and laterally, as the weight of the rail increases, and the consequent better distribution of the traffic loads over the ballast, other conditions being equal, there is a considerable reduction in the amount of labor required to keep the track in line and surface. The committee found, however, that the amount of this reduction varies within relatively wide limits by reason of variations in physical conditions and the volume and character of the traffic. None of the roads under study compiled records that showed definitely the magnitude of this reduction, although the testimony was general that it has been sub-



With Heavier Rail, There Is a Considerable Reduction in the Labor Required to Keep the Track in Line and Surface

* Abstract of a report presented at the convention of the American Railway Engineering Association in March by a subcommittee of the Committee on Economics of Railway Labor, of which Elmer T. Howson, western editor, *Railway Age* and editor, *Railway Engineering and Maintenance*, was chairman.

Track Labor Costs*

Heavier Rail,
Through Its In-
creased Life,
Has a Marked
Effect on Rail
Renewal Costs



stantial. Estimates by responsible maintenance officers of the reduction in the labor item ranged from 20 to 50 per cent. It was found that the savings in this item vary rather definitely with the volume of traffic and the speed of trains, increasing as the volume and speed of traffic increase.

While a large part of the reduction in the amount of labor required for lining and surfacing can be attributed directly to the stiffness of the rail and a better distribution of the loads on the ballast, it must be recognized that there are also indirect reasons for this reduction, as well as causes in no wise connected with the weight of the rail. The larger sections provide deeper fishing space and, therefore, stronger joints; the large tie plates that accompany the heavy rail reduce the wear on ties and tend to hold gage better, and where the tie plates are fastened independently of the rail fastenings this wear is still further reduced and there is less widening of the gage; new ties are pre-adzed and when rail is renewed modern practice demands the use of mechanical adzers, thus providing a better and more uniform bearing for the tie plates and rail; and stronger joints reduce the churning of the ballast at the joints. However, it is not possible to evaluate these items, either individually or in combination, or to estimate with any degree of accuracy the extent to which they affect the labor required for lining and surfacing.

Heavy Rail Outlasts Lighter Sections

Experience has shown that under average main-line conditions the life of heavy rail is greater than that of light rail, the length of the increased life being dependent on a number of factors. One of the roads under study based its decision to apply 130-lb. rail in place of 100-lb. rail on the annual capitalized cost of the rail and ignored the possible saving in the cost of track labor. On a district having a traffic of 23,000,000 gross tons per mile of track per year, it was calculated that, since the 100-lb. rail had an average life of $5\frac{1}{2}$ years, the 130-lb. section would have to last $8\frac{1}{2}$ years, or 55 per cent longer, to equalize the cost. As a matter of record, the 131-lb. rail has now been in service for 9 years with no removals and the minimum life will be at least 10 years, with the average considerably more.

This illustrates a situation that has a definite bearing on the effect of heavier rail on track labor, for where the life of the rail is increased 50 per cent, compared with the light rail it displaces, the labor cost of rail renewal is reduced by one-third; if the life is doubled the labor cost for this item is cut in half; and if the life of the rail can be extended $2\frac{1}{2}$ times, the labor for laying rail will be 60 per cent less. Actual experience in the saving effected in this item of track labor ranged from 20 to 60 per cent.

Life of Ties Increased

Increasing the weight of rail lengthens the life of ties by decreasing the abuse to which they are subjected in service. By reason of its greater girder strength, the larger rail distributes the traffic load over a greater number of ties, thus reducing the load on the individual ties. Although they are entirely independent of but usually incidental to heavy rail, large tie plates also contribute to decreasing the intensity of pressure on the ties by spreading the reduced load over a greater area of the surface of the ties. Ties fail in large numbers as a result of abrasion induced by relative movement between the tie plate and the tie, and this mechanical action is greatly increased by the wave motion in the rail. Since the heavy rail is stiffer, it has less wave motion and thus prolongs the life of those ties that fail from plate cutting.

Spike cutting is another fertile source of tie failure, and because rail renewals are less frequent and less gaging is required with the heavier rail and larger tie plates, the life of ties subject to this type of failure is prolonged. Because of the many other factors that affect tie life, however, such as the species of wood, the type of treatment, the practice of pre-adzing and pre-boring, the character and condition of the ballast and others that are in no wise related to the weight of the rail, it is not possible to state in concrete terms the effect of increased weight of rail on the labor involved in tie renewals, although it is clearly apparent that the heavy rail will result in an increase in the life of ties, and thus effect a reduction in the labor required for tie renewals.

Owing to the greater girder strength of the rail itself and to the opportunities the higher fishing affords for

better joint design, it is the general experience that an increase in the weight of rail tends to decrease the amount of labor required for picking up joints. There is also a reduction in the labor required for reconditioning the joints and replacing joint bars where heavy rail is used. The effect on labor of this item varies almost directly with the volume of traffic, axle loading and speed.

Heavy Rail Saves Ballast

Lack of stiffness accentuates wave motion in rail under the rolling wheel loads, thus causing increased vertical movement in the ties. Investigation has shown that the intensity of the blow delivered by the tie to the ballast bed under fast moving trains varies approximately as the square of the amplitude of the wave motion, that is, as the vertical distance the tie moves. These repeated blows tend to drive dirt up from the subgrade through the ballast and foul it. Then, with favorable conditions of moisture, churning results. While churning may, and frequently does, occur at any tie, it is more frequent and generally more aggravated around the joints.

Since the greater stiffness of the heavy rail reduces the amplitude of the wave motion and, therefore, the vertical movement of the ties, churning is reduced and the amount of labor involved in surfacing the track, over and above ordinary maintenance requirements, is eliminated or reduced. The committee obtained no information as to the magnitude of this excess labor requirement over ordinary maintenance but referred to a previous report by the Committee on Ballast in which it was stated that the cost of maintaining churning track (joints) is from $2\frac{1}{2}$ to 4 times that for track in which there are no pumping joints.

Furthermore, after churning track has been surfaced repeatedly, it becomes necessary either to clean or discard the existing ballast, give the track a general raise, and restore the ballast section. This work calls for a large expenditure of labor. Increasing the weight of rail reduces the tendency of the track to churn and increases the intervals between general surfacings, with a consequent appreciable saving in labor.

A Measure of Economy

In its report for 1930, the Rail committee included a monograph by A. N. Reece, chief engineer, of the Kansas City Southern, giving the results of a study to determine the economic weight of rail for that road. Five weights of rail were placed under study, including 85-lb., the existing standard for the road; 100-lb., 115-lb. and 127-lb., which were laid for experimental purposes; and the 150-lb. R. E. section. Largely from data obtained in field tests, it was concluded that the effect on track labor of increasing the weight of rail would be as shown in Table I. As a result of this study, it was determined that

Table I

Kansas City Southern

Rail section	Effect on Track rating (per cent)	Labor of Track maintenance per mile per year (man-hrs.)	Comparative labor (per cent)	Cost of Labor per mile per million G. T. M.	Saving per mile per million G. T. M.
8521	34	3,150	100	\$120	\$ 0
10025	50	1,950	62	74	46
11522	62	1,470	47	56	64
12722	67	1,280	41	49	71
15025	80	950	30	36	84

137-lb. rail would be the most economical section, but for reasons stated in the monograph 127-lb. rail was

chosen. At that time (1927) the gross ton-miles per mile of road on the districts where the 127-lb. rail was laid ranged from 4,560,000 to 6,330,000. In response to an inquiry as to the economies in track labor actually effected by reason of the increased weight of rail, the committee was advised as follows:

"In 1935, when the volume of traffic had increased from the low point of the depression, the railway made another study of the economics of heavy rail, the traffic for this year being selected in the expectation that it would be the average for a number of years. During 1935, the minimum gross ton-miles per mile of road on districts where the 127-lb. rail was in service was 2,840,000 and the maximum 4,740,000. Table II shows the cost of track labor (all items) per mile per million gross ton-miles for each weight of rail and the saving compared with the cost for the 85-lb. section. In this study the traffic density was taken as 3,130,000 gross tons per mile of road."

Table II

Kansas City Southern

Estimated Cost of Track Labor for Various Weights of Rail in 1935 (Based on Actual Costs for 85-lb Rail) Compared with Estimated Costs in 1927

Rail section	Cost of labor per mile per million G. T. M.		Saving per mile per million G. T. M.	
	1927 est.	1935 actual	1927 est.	1935 actual
8521	\$120	\$79	\$ 0	\$ 0
10025	74	49*	46	30*
11522	56	37*	64	42*
12722	49	32*	71	47*
15025	36	24*	84	55*

* Estimated from actual costs for 85-lb. rail.

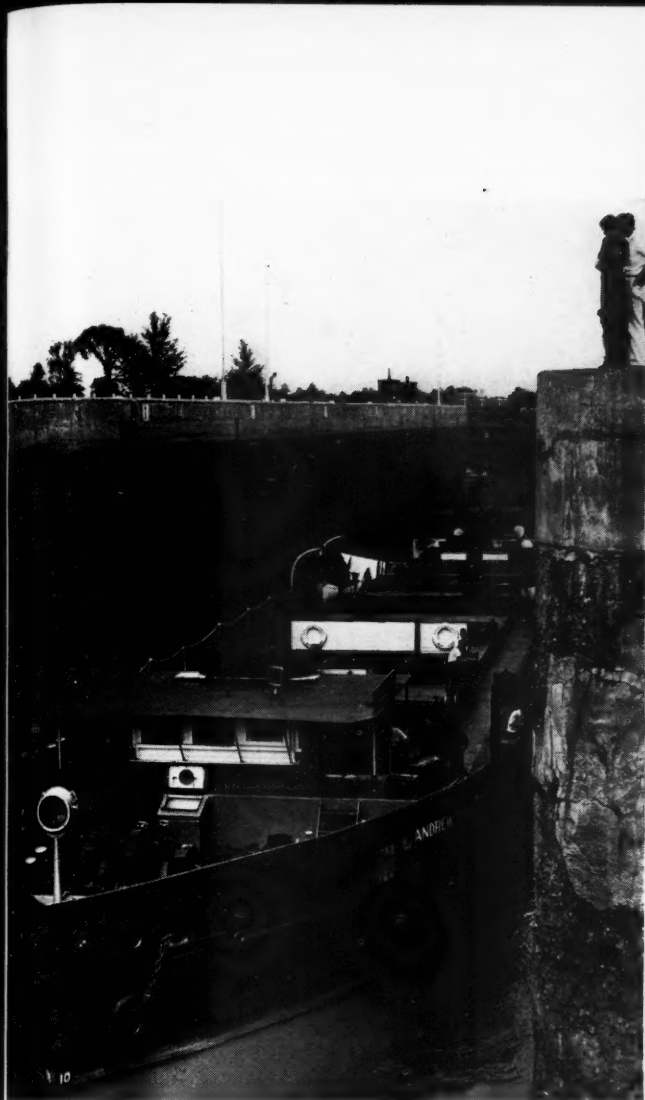
The committee was advised further that "the unit measure of economy shown in the tables is labor per mile per million gross tons, which is indisputably the most uniform measure obtainable because traffic density, physical characteristics and all other factors are included. The use of heavier rail has made it possible to reduce the labor force and lengthen sections. This latter reduction in force can be accomplished during periods of light traffic and to take advantage of well-built track and high standards of maintenance to carry through periods of low revenue. By measuring economy in gross ton-miles of traffic, the result is more positive. However, expressing labor in the usual terms, it was found that when a section is laid with 85-lb. rail, its length must be reduced by about five track miles or, by comparison, the same gang can maintain five more miles of 127-lb. rail."

A Record of Heavy Rail

On the Bessemer & Lake Erie the committee found another clear-cut record that shows quite definitely the effect of heavier rail on track labor. In 1917, this road began to replace 100-lb. rail with a section weighing 130 lb., and by 1921, about 60 per cent of the main-track mileage had been laid with the heavier rail. There was a decided reduction in man-hours of track labor beginning with 1922, with a continuing decrease as more of the heavier rail was laid. The life of the 100-lb. rail was six years, while that of the 130-lb. rail is 13 years, which has reduced the cost of laying rail by more than 50 per cent.

Table III shows for this road the gross ton-miles per mile of road per year, the man-hours for all items of track labor and for track laying and surfacing only, and the relative reduction that has been made in these items for the period from 1917 to 1931, inclusive. This state-

(Continued on page 342)

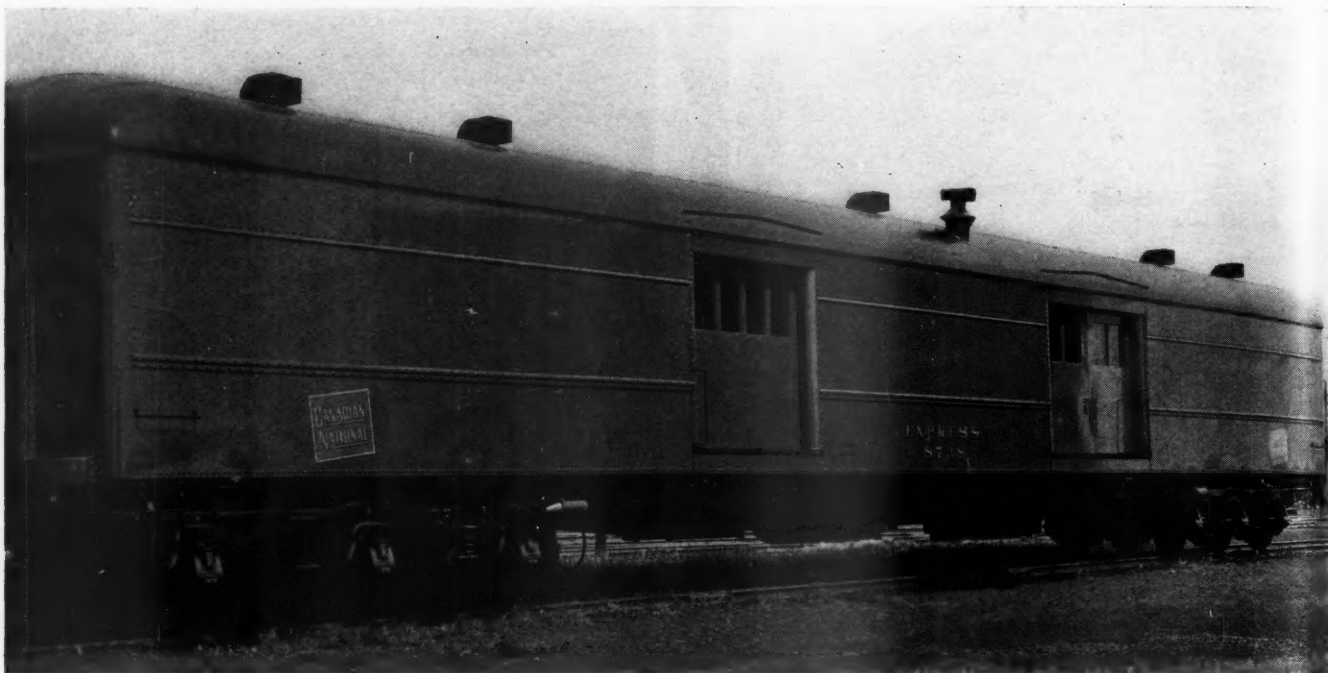


Some Big Business Patrons of Socialized Transportation

ABOVE—A Load of Manganese Ore Bound for Canada in a Vessel of the Erie & St. Lawrence Corporation (the Head of Which Is a Former President of the U. S. Chamber of Commerce)—RIGHT—A Tanker Loaded with 350,000 Gallons of Shell Gasoline—BELOW—One of the Ford Motor Company's Fleet, Bound for Home with 500 Tons of Imported Rubber and 1500 Tons of Castings (Eastbound These Vessels Carry New Automobiles)

Along the New York State Barge Canal, which is costing New York taxpayers more than \$2 for every ton of traffic it handles





One of the Ten Canadian National All-Steel Baggage Cars

Canadian National Mail and All-Steel Baggage Cars

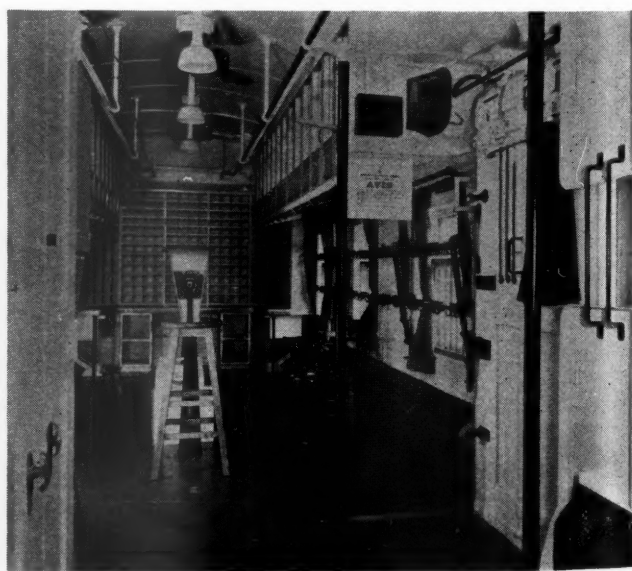
New equipment built by the Canadian Car & Foundry includes five of the former and ten of the latter

THE Canadian Car & Foundry Company has built five mail-and-express and ten all-steel baggage cars for the Canadian National. The two types of cars are of the same general construction but the details of construction have been changed to meet the difference in service requirements. They have a length over the end sills of 73 ft. 6 in., a width over the side posts of 9 ft. 9 $\frac{5}{8}$ in., and a height from the rail to the roof of 13 ft. 8 in. at the center. The mail-and-express car has a light-weight of 151,700 lb., and the baggage car has a light-weight of 144,200 lb.

The built-up underframes have fish-belly center sills and cast-steel platforms and buffer castings. The side sills are Z-bars with angles attached. The body bolsters and the cross bearers are of the built-up type, and the cross-ties are made of pressings.

The floor consists of No. 13 gage deafening sheets of steel in the baggage cars and of copper-bearing steel in the mail-and-express cars. Insulation is applied on top of the deafening sheets and is covered by two thicknesses of 1 $\frac{3}{16}$ -in. wood flooring, the bottom course being laid diagonally and the top course, longitudinally. Between the courses a layer of asbestos and asphaltum is applied. Oak floor slats, 1 $\frac{1}{2}$ in. by 3 in., spaced 1 in. apart, are secured to the floor for the full length of the baggage car and for the length of the express compartment in the mail and express car. An oak trunk

slide, 1 $\frac{1}{4}$ in. by 18 in., is applied longitudinally in the center of the baggage car and 1 $\frac{3}{4}$ -in. by 3 $\frac{1}{4}$ -in. rift-sawed yellow pine is laid at the door openings. The



The Mail End of the Mail-and-Express Car



Interior of the All-Steel Baggage Car

mail-and-express car has an oak trunk slide in the center of the express compartment with 1 $\frac{3}{4}$ -in. by 3 $\frac{3}{4}$ -in. rift-sawed fir laid crosswise of the car at the express door openings.

In the side construction the girder plate is of $\frac{3}{16}$ -in. copper-bearing steel. The letter plate, pier plates and drip moulding are $\frac{1}{8}$ -in. copper-bearing steel and the sash rest is made of $\frac{1}{8}$ -in. pressed copper-bearing steel. The side posts are of pressed steel and the side door posts are of pressed steel of Z-bar shape. The Z-bar side plates run the full length of the car.

The roof construction is of the arch type with one-piece angle carlines and angle-section ridge pole and purlines. The roof sheets of $\frac{1}{8}$ -in. plate are laid longitudinally, and the hoods are of the same general construction and contour as the main roof. Extending from the bottom pocket in the platform casting to the end-plate angle, which runs the full width of the car, are the end posts of 12-in. I-beam. The end sheathing is of copper-bearing steel. The ceiling sheets are made of No. 14 gage aluminum in the baggage car and in the express compartment of the mail and express car, while No. 16 gage furniture steel is used for the ceiling sheets in the mail compartment.

The floor is insulated by two courses of three-ply salamander on top of the No. 16 gage floor plate, applied between wood furrings and held by wood cleats. The

sides and ends of the baggage cars and express compartment of the mail and baggage cars have one course of three-ply salamander next to the outside sheathing and one course of two-ply salamander next to the inside sheathing. The girder plates below the belt rail in the mail compartment have three-ply insulation running from the inside of the sash rest down to the side-sill Z-bar and up to the floor level, and an additional course of two-ply insulation running from the sash rest to meet the top of the three-ply insulation at the bottom.

The baggage car has an interior finish of $\frac{1}{8}$ -in. corrugated copper-bearing steel sheets on the sides and ends extending from the floor to the side plates in one piece. Each side of the car is provided with two doors with 8-ft. and 6-ft. clear openings, respectively. The car is

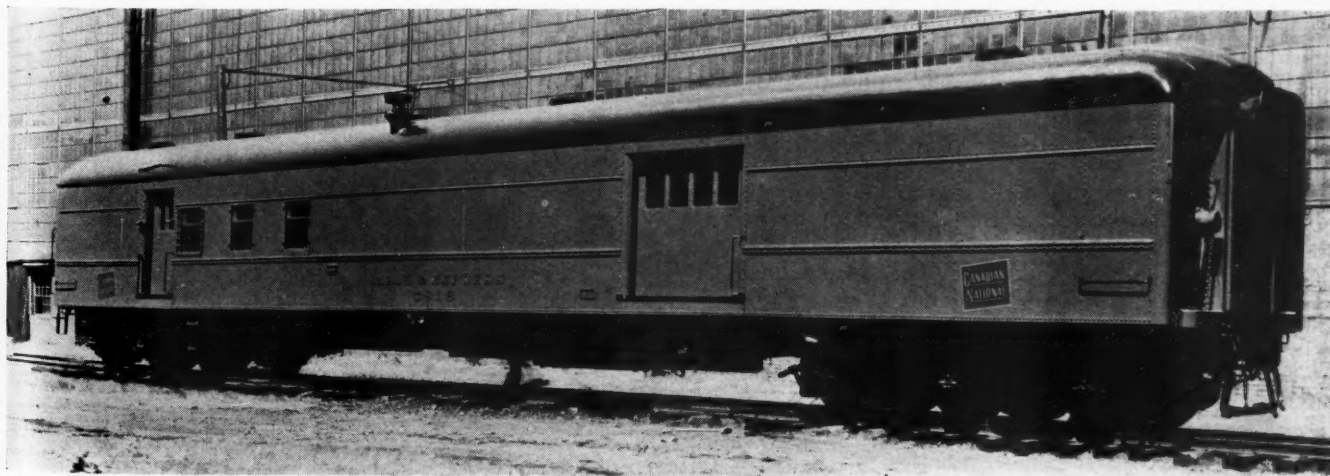
Principal Dimensions and Weights of Canadian National Mail-and-Express and All-Steel Baggage Cars

Length over buffers, ft.-in.	77 — 3 $\frac{1}{2}$
Length over end sills, ft.-in.	73 — 6
Length inside, baggage car, ft.-in.	72 — 8 $\frac{1}{2}$
Length inside, mail compartment, ft.-in.	30 — 6
Length inside, express compartment, ft.-in.	42 — 1
Width inside, ft.-in.	8 — 11 $\frac{1}{2}$
Width inside, mail compartment, ft.-in.	8 — 11 $\frac{1}{8}$
Width inside, express compartment, ft.-in.	8 — 11 $\frac{1}{8}$
Height, rail to roof at center, ft.-in.	13 — 8
Distance between truck centers, ft.-in.	55 — 7
Truck journals, in.	5 x 9
Truck wheelbase, ft.-in.	11 — 0
Light weight, baggage car, lb.	144,200
Light weight, mail and express car, lb.	151,700

equipped with a dry hopper, water cooler, stove, drop table, letter case, outfit and switch lockers, and a skid rack, all located on one side of the car between the side doors. The lighting of the car is furnished by nine center fixtures and by a fixture over each of the four side doors, the drop table, and the outfit locker. Ventilation is supplied by five Utility ventilators along the center of the arch roof and by five side ventilators.

In the mail and express car the side and end interior finish of the mail compartment is of $1\frac{3}{16}$ -in. by $2\frac{1}{4}$ -in. poplar sheathing and the express compartment has corrugated copper-bearing steel sheets extending from the floor to the side plates in one piece. The express compartment is provided with one door having a clear opening of 6 ft. on each side of the car. The mail compartment has one door on each side of the car with a 2 ft. 10 in. clear opening. The mail compartment has three windows on each side of the car while there are no windows in the express compartment except those in the side doors.

The mail compartment has letter cases located across the car at the inner end, a row of bag racks at each side



The Canadian National Mail-and-Express Car

of the car under the windows, and a sorting table in the center. A water cooler, gas plate, an electric fan over the sorting table, and a separate compartment for the toilet and wash stand complete the equipment. The express compartment contains a hot water heater, coal box, and switch locker on one side of the car, and a cook stove, coal box, water cooler, desk and waybill case on the other side, all located toward the inner end of the compartment. A skid rack is conveniently located on the door guard. The interior of the express compartment has five light fixtures along the center of the ceiling, and one fixture over each side door and the desk. The mail compartment has five light fixtures along the center of the ceiling, two fixtures placed transversely over the letter case, and one fixture over each door. These cars are equipped with a hot water heating system controlled by a heater having Duplex coils located in the express compartment.

The two types of cars have six-wheel Commonwealth trucks with 5-in. by 9-in. journals, unit brake cylinders,

prevails, the saving in labor is sufficient to justify the investment in heavy rail. For lines of lighter traffic, this justification becomes less pronounced and finally reaches

Table III

Bessemer & Lake Erie

Statement of G. T. M. Per Mile of Road, Track Department, Strict Maintenance Man-Hours, and Account No. 220, Strict Maintenance Man-Hours, for the Years 1917 to 1930, Inclusive					
Year	G. T. M. per mile of road	Track dept. strict M. W. & S. man-hours	Ratio to 1917	Acct. No. 220 * strict M. W. & S. man-hours	Ratio to 1917
1917	19,173,838	1,765,816	100.0	1,256,849	100.0
1918	17,805,087	1,741,743	98.6	1,261,588	100.4
1919	15,218,810	1,460,326	82.7	1,209,411	96.2
1920	15,846,963	1,394,059	78.9	1,066,525	84.9
1921	13,124,953	1,252,451	70.9	1,039,375	82.7
1922	15,284,593	930,399	52.7	711,052	56.6
1923	20,931,885	1,036,976	58.7	810,564	64.5
1924	16,405,542	1,142,754	64.7	867,368	69.0
1925	18,627,945	956,280	54.2	715,816	57.0
1926	19,306,343	941,446	53.3	705,595	56.1
1927	17,074,310	914,985	51.8	675,792	53.8
1928	18,302,893	840,254	47.6	585,430	46.6
1929	20,300,595	870,827	49.3	611,612	48.7
1930	16,507,213	796,996	45.1	589,745	46.9
1931	9,697,515	704,657	39.9	501,991	39.9

* Track laying and surfacing.

Materials and Equipment on Canadian National Mail-and-Express and Baggage Cars

Air brake and signal equipment (UC-4-10)	Canadian Westinghouse Co.
Brake shoes	Dominion Brake Shoe Co.
Buffers (B-10-X)	W. H. Miner Co.
Clasp brakes (Simplex)	International Equipment Co.
Draft gears* (P-F-6)	Canadian Cardwell Co.
Draft gear (A-5-X-B)	W. H. Miner Co.
Hand brakes* (D-2775-6)	W. H. Miner Co.
Hand brakes (D-2775-6 and D-2712)	W. H. Miner Co.
Hand brake booster (Universal)	Canadian Cardwell Co.
Heating equipment*	Canadian Gold Car Heating & Lighting Co.
Heating equipment	Vapor Car Heating Co.
Salamander insulation	Canadian Johns-Manville Co.
Truck frames	General Steel Castings Corp.
Ventilation (Utility)	O. W. Meissner

* On baggage cars only.

and clasp brakes. The steel-tired wheels are 36¼ in. in diameter with single-plate, nickel cast-iron centers. The cast-steel bolsters are of Commonwealth design.

The cars are provided with Canadian Westinghouse UC-4-10 air brakes and signal equipment. The bottom-operated Type E couplers have nickel-steel knuckles.

Heavier Rail—Its Effect on Track Labor Costs

(Continued from page 338)

ment was confined to the years prior to 1932 because the effect on track labor of the use of treated ties, which was started in 1928, was becoming apparent, while the improvement in ballast conditions, which had its beginning in the same year, was also beginning to show its effect. Again the adoption of new maintenance methods about 1930, combined with the ties and ballast, made it impossible even approximately in subsequent years to assign to the heavier rail its share in the continued reduction in track labor. By confining it to the period prior to 1932, therefore, the record affords a reliable indication of the reduction that can be effected in track labor through increased weight of rail alone.

While the remaining roads under study did not have as definite records of the reductions that have been made in track labor by reason of the adoption of heavy rail, with the exception of one road, the maintenance officers of these roads were unanimous that substantial reductions have been realized, the estimates for all items of track maintenance ranging from 20 to 60 per cent. Some of the roads conceded that where a high density of traffic

a point, which must be defined in the light of each particular case, where considerations other than the saving in labor must participate to justify the increase in weight.

Conclusions

1. The use of heavy rail in heavy-traffic, high-speed lines reduces the amount of labor necessary to maintain a given standard of track excellence.

2. This reduction is both direct and indirect. The items affected directly include line, surface, gage, joint maintenance and laying rail. The items affected indirectly include tie renewals, cleaning ballast and ballast renewals.

3. Since the labor required for practically every item of track maintenance is affected also by factors that have no relation to the weight of the rail, it is impossible to segregate those factors in such a way that the effect of the heavy rail alone can be evaluated.

4. The magnitude of the economy that can be realized from increasing the weight of rail depends on the relative stiffness of the heavy rail and of the lighter rail that it displaces, the volume of traffic, the axle loads and the speed of trains.

5. For lines of high traffic density, the saving in track labor following the installation of 112- and 131-lb. sections in place of sections weighing 100 lb. and lighter may reach 40 per cent of the total expenditure for this item. As the volume of traffic decreases, this saving also decreases until a point is reached where considerations other than savings in labor must justify the increase in weight of rail.

* * * *



Highway Semi-Trailers Now Straddle Disused Railroad Tracks Formerly Used for Transfer of Great Lakes Cargoes for Inland Distribution at a Typical Terminal in Buffalo, N. Y.

Regulators Meet in Seattle

Utilities commissioners, in annual convention, seek more adequate truck regulation—Commends railways on service and safety

THE problems of adequate motor carrier regulation occupied much of the attention of those attending the Fifty-first annual convention of the National Association of Railroad and Utilities Commissioners at Seattle, Wash., on Aug. 22-24, although consideration was given to many other problems in the field of transportation and utilities regulation, and the occasion was taken to commend the railways for the improvements which they have made in train service and accommodations, and for the record which they have achieved in safety of operation.

The convention, which was held at the Olympic Hotel, was attended by approximately 350 members and observers, representing commissions in 42 states as well as those of the District of Columbia, Hawaii and Porto Rico. In addition, four federal commissions, including the Interstate Commerce Commission, the Security Exchange Commission, the Federal Communications Commission, and the Federal Power Commission, all members of the association, were represented. President Nelson L. Smith, chairman of the New Hampshire Public Service Commission, assisted by First Vice-President Harry Bacharach, president of the New Jersey Board of Public Utility, presided over all sessions.

Decries Lack of Truck Regulation

One of the most important sessions of the convention was that given over to a discussion of transportation problems (railroad and motor carrier), with particular respect to the co-ordination of state and federal regulation and transportation legislation. This discussion was led by Richard J. Beamish, a commissioner of the Public Service Commission of Pennsylvania, who, in his opening remarks decried the "fiddling" in attempts to regulate motor trucks separately from the railways and called for putting a stop to the vicious system of rate cutting brought about with the advent of motor vehicle transportation on the highways. He spoke in part as follows:

"Too long we have been fiddling at attempts to regulate transportation by motor truck separately from transportation by rail. As a consequence of indecision and consequent delay by federal and state legislative and regulatory bodies in the consideration and treatment of transportation as an integrated unit comprising both rail and truck factors, the entire distribution economy of this nation has degenerated into chaos. The time has come when effective regulation must be achieved which will harness rails and trucks as a transportation team pulling side by side, helping each other like a 'well broken' farmer's team.

"The present transportation problem, so far as rate cutting is concerned, is a recurrence of the experience of the railroads soon after the turn of the century. In the early years of railroad transportation the cutting of rates was the recognized practice for attracting tonnage. The shipping public played one railroad against another to secure low rates for transportation.

"Today the country is passing through a similar vicious system of rate cutting brought about by the advent of

motor vehicle transportation on the highways. Regulation is trying to bring order out of chaos and is attempting again to save the railroads and the trucks from themselves. A prosperous and adequate transportation system hangs in the balance. Since history proves that in times of prosperity the transportation system of the country has been taxed repeatedly to the utmost to handle expeditiously the tremendously heavy traffic of the nation, now is the time to take adequate and effective steps to create a well-ordered and co-ordinated system of transportation which, on the next upswing—which is bound to come—will be able to cope with the ever-recurring flood of traffic.

"The trucking industry in its inexperience has over-extended itself, believing that it can haul freight for any and all distances, and profit therefrom. Already some have come to realize that for the longer hauls the smaller unit of transportation is unprofitable. The sooner the truck operator finds his place in the transportation field and develops that field, the sooner he will find himself more prosperous and able to handle adequately the traffic. He has the advantage of expedited service in his field and should and will be able because of that advantage to procure and hold traffic at equal or even higher rates in some instances than those charged by the railroads. As yet he does not see the light, but is allowing himself to be exploited by shippers and others who take advantage of competition to force down rates.

"The country needs both the railroad and the truck. Both are entitled to and the country can pay them a living wage. As their business is now conducted they are cheating themselves of that living wage. Both should cease to be mere pawns in a chiseling game. Rates must be made stable and adequate, and competition must be strongly controlled."

As a part of his remarks, Commissioner Beamish described what has been done in Pennsylvania to bring the railways and the motor carriers together upon a basis of mutual trust and real co-operation. He said that to this end, under the general direction of the Pennsylvania Public Utility Commission, a joint committee had been created early this year, composed of six representatives of the railways operating in Pennsylvania and six representatives of common carrier motor trucks operating within the state, to harmonize rail and motor truck rate structures within that commonwealth.

The joint committee found its task a difficult one, but he said that it had already accomplished gratifying results, working under the principle of its own adoption "that the public interest will be best promoted if there is a uniformity of rates for both truck and rail transportation, uniformity being understood to mean the payment by the shipper or consignee of the same aggregate charge for a given service, irrespective of the type of transportation system employed."

Uniform Truck Load Limit Called For

Among other commissioners who told of motor carrier regulation problems in their respective states was Lon

A. Smith, chairman of the Texas Railroad Commission, who said that Texas, with more motor truck mileage than any other state in the Union, and perhaps more trucks, and with specially licensed trucks to handle oil, mohair and cotton, in addition to merchant, common carrier and contract trucks, had plenty of trouble. He considered these problems, however, only comparable with those involved in early regulation of the railways.

As did other commissioners, Mr. Smith called for greater co-operation between state and federal commissions and said that one of the greatest needs at the present time was a uniform truck load limit throughout the country. In this connection he spoke of the unjust burden placed upon truckers in interstate business and of the added cost to the public of situations such as that which exists between Texas and Oklahoma, where, because the former has a load limit of 7,000 lb. and the latter one of 10,000 lb., there is constant recasting of loads at the state line.

Progress in Co-ordination in Nebraska

Commissioner F. A. Good of the Nebraska State Railway Commission said that through the adoption of a greatly simplified rate structure in his state about two years ago, and now applying alike to practically all commodities moving by rail or truck in intrastate business, the problem of harmful competition, to the detriment of both the railways and the motor carriers, had apparently been solved. Aside from the simplified rate structure now in force in that state, which groups practically all commodities under three classifications, the significant feature of the Nebraska set-up, as described by Commissioner Good, is that, except for a small section of the state, all rates are based on air-line (straight line) distances between points, the rates taking into consideration the fact that the average road or rail distance between points is approximately $13\frac{1}{2}$ per cent greater than the air-line distance.

As an adjunct to this simplification of rates and rate determinations, maps are available to the carriers from which the total air-line rates per hundred pounds can be read directly from the 19 principal industrial and distribution centers of the state to any of more than 900 other cities and towns within the state. Where these rates are not tabulated directly on the map for movements between any two points within the state, the scaled straight-line distance between these points on the map, referred to a straight-line rate scale at the bottom of the map, gives directly the charge per hundred between these points for the class of commodity under consideration. The only part of the state not subject to the air-line scale method of rate determination is a hilly territory in the northwest section, where the circuitous routes necessarily followed do not lend themselves readily to straight-line determination. Here, special, but uniform agreed rates are in effect between all carriers.

According to Commissioner Good, criticism of the rate structure when first proposed and put in effect, based largely upon fear of the consequences upon certain interests or territories, have largely disappeared, and the entire system appears to have solved a formerly perplexing problem in the interest of the carriers, the shippers and the public alike.

Regulation "On the Spot"

In his annual address, President Smith reviewed at length the activities of the association during the year, and especially those activities of its Washington office and general solicitor in intervening in hearings and court

actions in the interest of safeguarding to the states and state commissions their rightful authority over intrastate commerce by rail and motor truck. He characterized regulation as being "on the spot" in spite of the fact that "regulation today is probably more effective and more productive of results than ever before in the history of the country," and cited in this regard the plight of the railways, the unsolved problem of adequate and effective truck regulation, and the new demands being brought about in the electrical field through the huge power projects undertaken by the federal government and the extension of state and municipal ownership and operation of public utilities.

Possibilities for Regulation Unlimited

Following President Smith, John E. Benton, general solicitor of the association, spoke at length of the aspect of federal legislation during recent years, "which has carried the control of the federal government over the life and business of the people in the several states to a point undreamed of 20 years ago, while at the same time Congress has attempted studiously to prevent the intrusion of federal commissions into the field of local regulation of public service enterprises." Referring specifically to the Agricultural Adjustment Act, he stated that, "Enabling the United States Supreme Court, without reversing itself, to decide that legislation is constitutional which enables the federal government to accomplish what the Court has before said was beyond the scope of federal power, has become a fine art with those who draft federal statutes to further federal control." Continuing, he said, in part, as follows:

"While the Congress, under the guise of regulating interstate commerce, has thus laid the hand of federal regulation upon business generally, and has subjected agriculture, manufacturing, mining and other enterprises to federal control to an important extent, it has not neglected public service enterprises. The statutes providing for the regulation of public service enterprises, however, present an interesting phenomenon. Whereas the statutes which I have mentioned, providing regulation for business generally, have extended that regulation without regard to the states, and indeed have resorted to fiction and artful pretense to extend federal regulation outside interstate commerce, into fields of activity which have heretofore been regarded as beyond the reach of federal power, the statutes regulating public service enterprises, enacted since the Transportation Act of 1920, exhibit no design to encroach upon the reserve power of the states."

In spite of this situation, however, the general solicitor, at another point in his remarks, said: "State commissions may no longer expect Article X of the federal constitution will restrain congressional action. The Commerce clause and the General Welfare clause, as now construed, are open doors through which I apprehend the Congress may proceed in extending federal control about as far as it deems best."

Owner-Transporter a Problem

The problems presented by the unregulated trucker, and particularly the owner-transporter, was the main theme of the report presented on Motor Vehicle Transportation, this report pointing out that both the railways and regulated common and contract motor carriers are to a large extent at the mercy of the still unregulated trucker. In spite of the "Declaration of Policy" contained in most existing motor truck regulatory statutes, to the end that the highways may be rendered safer for the

use of the general public, that the wear of such highways may be reduced, and that congestion of traffic on the highways may be minimized, the report pointed out that regulation as it now stands, leaving much trucking still untouched by regulation, is defeating the purpose of such regulation as exists. In this regard it said: "Regulation, in general, is not putting fewer trucks on the highway, but more. The number of unregulated trucks is noticeably increasing. There is no diminution of the number of regulated trucks, in spite of the fact that carriers are folding up financially."

The committee saw no clear-cut answer to the solution of the problem of the still unregulated trucker, but said that, "We cannot, however, ignore the situation permanently if the administrative work of regulatory bodies is going to bring about the desired result—of efficient transportation at reasonable rates."

Commend Improved Railway Service

Presenting the first report on distinctly railway matters, the Committee on Railroad Service, Accommodations and Claims, of which Wilson T. Wright, of the Corporation Commission of Arizona, was chairman, "found railway service and accommodations rising today to a plane unthought of only a few years ago—not through regulation, but as the result of competition and the determination of the railways through improved service to stimulate rail patronage." Concerning damage and claims, it found the situation so improved that it commended the Association of American Railroads for "its efforts and accomplishments in reducing this unnecessary evil." In part, the committee said:

"Today we are realizing that the prosperity of our Nation is dependent upon co-operation between the public and industry. Especially is this true of the relation between the public and the railroads. We have but to read the reports of this committee of 15 or 20 years ago to recall the problems which confronted commissions endeavoring to improve railroad accommodations and service at that time; problems of station service, caretakers, the construction of buildings, the determination of the locations of stations and stops, waiting rooms and rules of sanitation relative thereto. Those problems seemed important then. No doubt problems which seem paramount today will seem trivial to those who will have taken over our responsibilities 20 years hence. Our problems will have been solved or minimized, not by arbitrary orders of regulatory bodies interfering with the management of the railroads; not by the public demanding the unreasonable; but by frank discussion around a conference table where selfish ideas will be subordinated to the general welfare of the country as a whole.

"There is nothing that regulates so efficiently as competition, nor is there a substitute for efficient regulation. Competition has forced changes upon the carriers which they would have been loath to put into effect if ordered to do so by a regulatory body. It is axiomatic that poor service and accommodations discourage patronage. The greatest need of the railroads today is patronage. This can only be wooed, courted and won by an ardent suitor in the form of better service and accommodations affecting the health, pleasure, comfort and general well-being of the public. There may be criticism of past policies of the railroads in over-expansion, of extended service into unprofitable areas, in building passenger and freight depots out of all proportion to the volume of business flowing through them; yet the fact remains that out of all this there has evolved a most efficient servant for the convenience and necessities of the public.

"It is not now so necessary to legislate or to promul-

gate rules and regulations affecting service and accommodations afforded the traveling and shipping public. These high standards have been brought about through co-operation rather than coercion. No doubt there have been instances where improved service and accommodations have been offered to the public at less than cost. This deficit must be passed on in increased rates or impaired service to the less favorably situated consumers or at the expense of those whose money has made the service possible. To minimize this practice is now one of the major problems of regulatory bodies. So keen is competition and so improved is service that complaints to commissions today relative to service and accommodations are very few and are what might be termed superficial rather than underlying.

Streamlined Passenger Service Cited

The report discussed in some detail the inauguration and extension of streamlined passenger service on both the Chicago, Burlington & Quincy and the Atchison, Topeka & Santa Fe, citing the experiences of these roads as typical of what has been accomplished by the railways during the last six years to improve travel by offering better transportation service. Continuing, it added, "It is interesting to note that on all railroads freight train schedules have been so improved that freight is now handled on regular and dependable schedules and the speed of such service has been materially increased. Also, it is worthy to note the progress made in the construction of new terminals as a direct result of this streamline period."

Concerning damage and claims, the committee spoke of the efforts of the railways "to minimize them and to inoculate against recurrence," and presented statistics issued by the A. A. R. showing that whereas freight loss and damage on the railways was \$24,381,819 in 1937, it was \$21,474,379 in 1938, a reduction of \$2,907,440, or 11.9 per cent.

It also presented a tabulation of loss and damage claims against the railways for the 11 years 1927 through 1937, which showed that within this period, with some fluctuation, these claims were reduced from \$74,516,533 to \$45,575,430, a reduction from 1.6 to 1.5 per cent of total operating expenses. Concerning these losses it said: "This large item of expense must of necessity be passed on in higher rates. It can be reduced only through co-operation of consignee, consignor and carrier. The Railroad Association should be commended for its efforts and accomplishments in reducing this unnecessary evil."

Railroad Safety Record Praised

Reporting on Safety of Operation, a committee of which Will M. Maupin, chairman of the State Railway Commission of Nebraska, was chairman, expressed its belief that the need for a uniform system of safety regulation for highway and railway operation, to say nothing of industrial operations, is too apparent to need extended discussion, but stated that instead of keeping up the habit of forever enacting new safety laws, there should be fewer and better laws, backed up by rigid enforcement and education of the public. "There is a sad lack of uniformity in our safety laws," it continued. "What is legal in one state is illegal in another. There is a sad lack of educational campaigns designed to promote safety. Then, there is 'Mr. Independent American,' who insists that the laws are made for him.

"The railways have, during the last decade, performed a remarkable public service by their 'safety first' campaigns, whereby the percentage of accidents resulting in

deaths, injuries and the destruction of property has been greatly reduced. Without these campaigns there would today be a vast increase in accidents due to modern high-speed trains. The operation of highway buses by the railways has been benefited by the same safety-first rules. The same cannot be said truthfully of private carriers of passengers and property."

In conclusion, the committee repeated its recommendations of previous years to the effect that federal and state safety rules for both railway and highway operation be made uniform; that there be uniformity in grade crossing signals in all states; and that the association appoint a special committee to study these matters, conferring in regard thereto with officers of the A. A. R., the Bureau of Safety of the I. C. C., and officers of its own association.

Grade Crossing Accidents

Reporting on railway grade crossing elimination and protection, a committee, of which T. L. Hanson of the New Jersey Board of Public Utility, was chairman, expressed great satisfaction with the work which had been carried out in this regard during the last year. It presented figures showing the number of accidents, fatalities and injured at grade crossings during 1937 and 1938, which for the latter year showed a decrease of 996 accidents from a total of 4,489 in 1937; a decrease of 358 fatalities, from a total of 1,875; and a decrease in the number of injured of 1,118, from a total of 5,136. It also presented statistics showing that the number of fatalities at grade crossings during 1938 (1,517) was less than in any year since 1921, with the exception of 1933, when the number killed at grade crossings was 1,511.

Citing statistics compiled by the I. C. C. for 1937, which show that 35 per cent of the motor vehicle accidents at crossings occurred where the crossings were protected by closed gates, watchmen or audible or visible signals indicating the approach of trains, and that 25 per cent of such accidents occurred at crossing where flood, street or other lights had been installed especially to illuminate the crossings, the committee said that these facts emphasized the necessity of complete grade separation wherever possible and the installation of improved safety devices where separation or elimination is not feasible, coupled with safety campaigns participated in by local authorities and civic bodies.

In conclusion, the committee renewed its recommendations of last year that the various states approve the standards set forth in Bulletin 2, "Railroad-Highway Grade Crossing Protection—Recommended Standards," published by the Joint Committee on Grade Crossing Protection of the A. A. R.; that the various states urge municipalities to remove trees, shrubs, buildings, billboards and other obstructions to afford a clear view at crossings of approaching trains; that safety campaigns be inaugurated, especially in the schools and among applicants for licenses to drive automobiles; that no crossing at grade be eliminated unless the crossing so eliminated is closed to general traffic; that the various state agencies co-operate in the regulation of traffic over crossings at grade; that wherever not already the case, power be given to state regulatory bodies to relocate crossings and to eliminate by closing, little-used or unnecessary crossings; and that the policy of federal help in grade crossing elimination and protection, both from P. W. A. grants and allotments from Bureau of Public Road's funds, be continued.

A special committee on uniform motor freight classification, of which E. L. Taylor, of Connecticut, was chairman, reported that the Uniform Motor Freight Classi-

fication Conference has prepared a motor vehicle freight classification in which the class ratings are based upon weight and volume, and depart from this basic principle only in exceptional cases when necessary to include the effect of other important factors resulting in a higher class rating. It said that this classification, which has not been prescribed as yet by any commission, is much simpler than present railroad classifications, and expressed the belief that if the new classification is adopted for motor carriers, it might lead to substantial revision of existing railroad classifications, not only because it appears to have a sound basis, which should preserve both types of carriers and at the same time give adequate protection to the shipping public in the matter of basic charges, but also because of its brevity and simplicity.

The report of the Committee on Valuation, of which Ernest I. Lewis, of the Interstate Commerce Commission, was chairman, was designed primarily to keep the association informed of recent decisions of the federal courts in rate cases in which valuation was the important factor. It said that for the second time within a little more than a year the Supreme Court had emphatically declined to do away with the "fair value rule" and to give prudent investment, as an exclusive rate base factor in utility cases, the stamp of approval and constitutionality.

The report of the Committee on Legislation pointed out at length the action which had been taken by the general solicitor and others of the association in opposing certain phases of the railway and motor carrier legislation before the Congress during the last year. Its objections were directed particularly against those provisions of the proposed railway and motor carrier legislation which would have broadened the power of the I. C. C. over intrastate rates or which appeared in any way to encroach upon the existing prerogatives of the states or state regulatory commissions.

Officers Elected

In the election of officers for the ensuing year, Harry Bacharach, first vice-president, was elected president; James W. Wolfe, of the public service commission of South Carolina, was advanced from second vice-president to first vice-president; and Roy C. Wakefield, president of the California Railroad Commission, was elected second vice-president. In addition, John E. Benton was re-elected general solicitor, and Clyde S. Bailey and Robert E. May were re-elected secretary and assistant secretary, respectively. Miami, Fla., was selected as the point of the convention next year, which will be held Dec. 10 to 12.

THE TRANSPORT BOARD OF THE FEDERATED MALAY STATES has issued its first public report, which presents the changed condition in highway transportation since the so-called Road Traffic Enactment went into effect on January 1, 1938. In considering the necessity of curbing excessive competition both within the industry and with the railways (the latter are entirely government-owned), the report declares: "The first step in the co-ordination of road and rail services is to get commercial road transport on a sound basis, paying its proper contribution to road costs and operating under conditions of safety with well-maintained vehicles. This step has been practically completed. No competitive long-distance passenger services have been licensed and the bus operators are unable to reduce the authorized fares in order to attract traffic from the rail. In the goods haulage industry the irresponsible rate cutter who is an embarrassment both to the railways and to his fellow carriers has been removed and the door closed to the entry of others."

Keeping the Variables Variable

How the accounting department can give operating men the information needed to help hold expenses in line with traffic volume

By E. H. Bunnell

Vice-President, A. A. R.

THE successful transportation-department officer might be defined as one who is able to take prompt action to keep the so-called variable expenses varying with the volume of traffic. Thus one of the accounting department's important jobs is to serve up usable current statistics on a schedule which permits the taking of expense-adjusting action in time to make the results effective. That goal, it is believed, can be achieved under the system of budgeting for variable expenses which is described in broad outline herein, and which has stood the test of practical railroading on the St. Louis-San Francisco. This highlight description is a sequel to the article entitled "Controlling Maintenance Outlays," which appeared in the *Railway Age* of December 24, 1938, page 913; and thus it is an attempt to summarize in non-technical language another section from a general work on present-day problems of railway accounting which the author has in preparation.

The system is designed to maintain a complete check and control over 90 per cent of expenditures for opera-

tions through daily, weekly and monthly reports prepared or verified by the accounting department. These operating-performance statistics, furnished to general operating officers, division superintendents and others concerned, facilitate the checking of results from the standpoint of efficiency and economy.

First of all there is the monthly statement of income account, interest charges and statistics. Final closing of a month's accounts is accomplished on the 23rd of the following month, and on the 25th the chief accounting officer forwards to executive officers the above-mentioned statement, showing the income account and interest charges together with certain statistics applicable to the month's accounts just closed and the year to date; these data are compared with those for the previous year's same month and its comparable cumulative period. The ratio of each class of expenses to total operating revenues is shown for each general account and for the total of operating expenses. All pertinent statistical information is included with locomotive, train and car mileages shown

After 3rd Person's SUB. Northern

FREIGHT AND MIXED TRAIN PERFORMANCE

DIVISION (DATE: March 26th 1938)

1938

EAST AND NORTH BOUND

Volume North Bound

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FREIGHT TRAIN PERFORMANCE

Sub-Division Division FRISCO SYSTEM March 1st to 20th, inclusive, 1938

Note: Includes Mixed Train Service.			
	Current Month	Previous Month	Same Month Previous Year
1. TRAIN MILES:			
Through	313,477	330,128	384,307
Other	135,637	135,407	150,701
Total	449,114	465,535	535,008
2. GROSS TON MILES (Thousands):			
Through	519,435	521,005	602,296
Other	73,669	71,591	85,143
Total	593,104	592,596	687,445
Ratio—Through to Total	87.6	87.9	87.6
3. GROSS TON MILES PER TRAIN HOUR:			
Through	39,736	37,550	36,674
Other	7,652	7,451	7,452
Total	47,388	45,001	44,126
4. GROSS TONS PER TRAIN MILE:			
Through East	1,676	1,591	1,718
Through West	1,637	1,565	1,414
Through Both Directions	1,657	1,578	1,567
Other	543	523	566
Total	1,321	1,273	1,289
5. PER CENT OF RATING HAULED:			
Through East	57.7	55.4	59.8
Through West	55.2	50.7	55.2
Through Both Directions	56.2	57.9	57.7
Other	34.9	35.9	36.4
Total	55.3	55.3	55.9
6. POUNDS OF FUEL PER 1000 G. T. M.:			
Through	132	140	146
Other	315	336	322
Total	154	163	168
7. TOTAL WAGES:			
Through	\$ 111,699	\$ 117,591	\$ 128,679
Other	\$ 65,823	\$ 66,466	\$ 71,843
Total	\$ 177,522	\$ 183,957	\$ 200,522
8. OVERTIME WAGES:			
Through	\$ 775	\$ 993	\$ 1,087
Other	\$ 1,449	\$ 1,679	\$ 3,431
Total	\$ 2,224	\$ 2,672	\$ 4,518
9. PER CENT OVERTIME TO TOTAL WAGES:			
Through	0.7	0.8	0.8
Other	2.2	2.5	4.8
Total	1.3	1.5	2.3
10. WAGE COST PER 1000 G. T. M.:			
Through	\$.215	\$.226	\$.214
Other	\$.893	\$.920	\$.844
Total	\$.299	\$.310	\$.292
11. FUEL COST PER 1000 G. T. M.:			
Through	\$.197	\$.208	\$.206
Other	\$.893	\$.920	\$.844
Total	\$.299	\$.310	\$.292

12. DIRECTION OF VOLUME: East or North (E); West or South (W)

Current Month

Previous Month

Same Month Previous Year

Office of Car Accountant, Springfield, Missouri

March 25,

1938

Figure 2: Cumulative Statement Which Enables Supervisory Officers to Check Operations Currently

separately for revenue and non-revenue service, and as between various classes of service.

Daily Train Performance Statement Is Keynote

Next comes the daily statement of freight and mixed train performance shown in Figure 1. This is the keynote to the whole story on check of train performance. As will be seen it classifies trains as between through and local, and again by directions. Also, it compares the gross ton-miles actually hauled with the "potential" as determined by locomotive ratings; shows wage costs with overtime and, ultimately, fuel consumption and costs—the two big items in train-operating expenses. The statement is prepared by a clerk in the office of the chief train dispatcher on the basis of data gathered from train sheets; it is in reality a transcript of the train sheet, reflecting pertinent information with respect to each train movement. The fuel data are furnished by the car accountant's statistical bureau which has in turn gathered such data from the fuel foreman's reports. This bureau also verifies the gross ton-mile computations, making a sufficient number of tests by calculating gross ton-miles from wheel reports and comparing the results with the daily statement's figures which, as noted above, had been taken from the conductors' tonnage reports to the dispatcher.

The daily performance record is utilized to accomplish three important objectives, as follows:

(1) It furnishes each superintendent, assistant superintendent or trainmaster with a complete record of the performance of each train on each of the train districts under their jurisdiction. The especially valuable feature of this arrangement is that the superintendents and trainmasters are informed daily as to the performance costs per unit of service, enabling them to single out im-

mediately any train or trains which may not have been operated efficiently or economically.

(2) It is also used by the central timekeeping bureau located in the office of the auditor of disbursements, to verify trainmen and enginemen's time tickets for actual miles run or service performed. Allowances for dead-heading, called and not used, assigned crews paid and not used, time of engine messengers and other miscellaneous time, are covered by individual time tickets approved by train dispatchers and superintendents.

(3) It is the authoritative source from which gross ton-miles are accumulated for use in statistical and other statements and reports to state and federal authorities.

Copies of this daily performance record are furnished to superintendents, assistant superintendents or trainmasters, general manager, chief operating officer, auditor of disbursements and car accountant, the latter getting two copies.

Cumulative Statement

Data from the daily statement described in the foregoing are summarized by the car accountant's statistical bureau, and a cumulative statement to date (see Figure 2), with the current month compared with the previous month and the same month of the previous year, is prepared for each operating division and sub-division thereof, with a composite summary for the entire line. Under "normal" traffic conditions this condensed summary is prepared and distributed daily, and standards are provided for Items 3, 4, 6, 9, 10 and 11 based on past good performance for each sub-division. Under current traffic conditions and those prevailing in recent years, the summary would be issued eight times a month, and the above-mentioned standards for the six items listed would be omitted. Such a curtailed schedule makes the first statement issued each month cover four days; and sub-

SWITCH ENGINE PERFORMANCE						
FROM	May 1	TO	May 31	INCLUSIVE, 19 38		
	Current Month	SYSTEM	Same Month Previous Year	Current Month	Previous Month	Same Month Previous Year
Cars Hauled	536915	514046	537903	500999	479802	504563
Engine Hours	30995	29122	32190	29313	27716	30884
Cars Hauled Per Engine Hour	17.3	17.7	16.7	17.6	17.3	16.3
WAGES						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 36029	\$ 35086	\$ 36602	\$ 34146	\$ 33280	\$ 37733
Crews—Regular Time	\$ 113750	\$ 113113	\$ 124706	\$ 113044	\$ 106454	\$ 113702
Crews—Overtime	\$ 4008	\$ 3188	\$ 3233	\$ 3570	\$ 2908	\$ 2841
Total Wages	\$ 158787	\$ 150186	\$ 164541	\$ 150860	\$ 142642	\$ 160276
Per Cent of Overtime to Regular Wages	3.4	2.8	2.6	3.2	2.7	2.4
WAGE COST PER CAR						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 0.067	\$ 0.068	\$ 0.073	\$ 0.068	\$ 0.069	\$ 0.075
Crews	\$ 0.229	\$ 0.224	\$ 0.238	\$ 0.233	\$ 0.228	\$ 0.243
Total Cost Per Car	\$ 0.296	\$ 0.292	\$ 0.311	\$ 0.301	\$ 0.297	\$ 0.318
Kansas City (Group 1)						
Cars Hauled	41892	40763	43057	32795	33470	31507
Engine Hours	4324	3963	4505	3395	3457	4300
Cars Hauled Per Engine Hour	9.7	10.3	9.6	9.7	9.7	7.3
WAGES						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 3014	\$ 3733	\$ 3698	\$ 3733	\$ 3775	\$ 4473
Crews—Regular Time	\$ 16375	\$ 15038	\$ 17080	\$ 14580	\$ 14738	\$ 13674
Crews—Overtime	\$ 301	\$ 209	\$ 277	\$ 538	\$ 517	\$ 165
Total Wages	\$ 20490	\$ 18980	\$ 21055	\$ 18851	\$ 19030	\$ 23312
Per Cent of Overtime to Regular Wages	1.8	1.4	1.6	3.7	3.5	0.9
WAGE COST PER CAR						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 0.091	\$ 0.092	\$ 0.086	\$ 0.114	\$ 0.113	\$ 0.142
Crews	\$ 0.393	\$ 0.374	\$ 0.403	\$ 0.461	\$ 0.456	\$ 0.598
Total Cost Per Car	\$ 0.489	\$ 0.466	\$ 0.489	\$ 0.575	\$ 0.569	\$ 0.740
Birmingham Joint (Group 1)						
Cars Hauled	35925	32898	34741	5826	5344	4838
Engine Hours	2181	2031	2144	909	850	848
Cars Hauled Per Engine Hour	16.5	16.2	16.2	6.4	6.3	5.7
WAGES						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 2642	\$ 2555	\$ 2635	\$ 1313	\$ 1273	\$ 1276
Crews—Regular Time	\$ 8068	\$ 7453	\$ 8137	\$ 3305	\$ 3116	\$ 3166
Crews—Overtime	\$ 326	\$ 395	\$ 92	\$ 105	\$ 158	\$ 44
Total Wages	\$ 11036	\$ 10403	\$ 11864	\$ 4803	\$ 4547	\$ 4486
Per Cent of Overtime to Regular Wages	4.0	5.3	1.1	5.6	5.1	1.4
WAGE COST PER CAR						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 0.073	\$ 0.078	\$ 0.105	\$ 0.225	\$ 0.238	\$ 0.264
Crews	\$ 0.324	\$ 0.293	\$ 0.237	\$ 0.499	\$ 0.613	\$ 0.663
Total Cost Per Car	\$ 0.397	\$ 0.316	\$ 0.342	\$ 0.724	\$ 0.851	\$ 0.927
Birmingham Belt (Group 1)						
Cars Hauled	35925	32898	34741	5826	5344	4838
Engine Hours	2181	2031	2144	909	850	848
Cars Hauled Per Engine Hour	16.5	16.2	16.2	6.4	6.3	5.7
WAGES						
Yardmasters, Clerks and Switch and Signal Tenders	\$ 2642	\$ 2555	\$ 2635	\$ 1313	\$ 1273	\$ 1276
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Crews	\$ 0.324	\$ 0.293	\$ 0.237	\$ 0.499	\$ 0.613	\$ 0.663
Total Cost Per Car	\$ 0.397	\$ 0.316	\$ 0.342	\$ 0.724	\$ 0.851	\$ 0.927

OFFICE OF SUPERINTENDENT TRANSPORTATION, Springfield, Mo., June 8, 1938

Figure 3: Semi-Monthly Statement of Switch-Engine Performance. Providing Such Check as Can Be Had of Yard Operations

sequent statements each include approximately four additional days, the last being cumulative for the entire month.

These statements, summarizing as they do the above-described daily issues of the train performance record, give the supervisory officers a picture of the trend—a useful supplemental aid to the current checking of operations. Copies go to superintendents, general manager, chief operating officer, superintendent of motive power, master mechanics, superintendent of transportation, vice-president in charge of purchases, fuel agent, and chief accounting officer.

Checking Yard Operations

Figure 3 is the semi-monthly statement of switch-engine performance, providing such check as can be had of yard operations. It is prepared by the car accountant's statistical bureau from data in semi-monthly reports rendered by yardmasters at points where regular switching service is maintained. These statements cover for each month the periods 1st to 14th and 1st to 31st, comparing the current month with the previous month and the same month of the previous year. Copies are furnished to yardmasters, superintendents, general manager, chief operating officer, superintendent of motive power, and chief accounting officer.

Meanwhile yard offices are maintaining a daily record

of data for inclusion in these semi-monthly reports, and terminal supervising officers make daily comparisons of costs. Thus beneficial effects through the use of switch engine performance statistics are obtained immediately—increases or decreases in the number of switchers in service can be made at once, dependent upon the showing made on the previous day or in the previous period.

The check of freight office and platform performance is made on the basis of data submitted each month to the car accountant's statistical bureau from the daily records which station agents are required to maintain; and which incidentally give the agents a daily basis for comparing their individual current performances with those of the previous day, the previous month to date and the same month of the previous year. With the figures accumulated from the agents' daily records, the car accountant's statistical bureau prepares a statement showing basic data upon which freight platform performance standards are established for the month following that in which this statement is issued. Such standards are established by the general manager to whom the statements come from superintendents with the latter's recommended standards for each station. When the general manager has posted the established standard in the appropriate column the statements are returned to the car accountant's statistical bureau for the giving of final advice to the agencies concerned.

New Books . . .

The Present Railroad Crisis, by William J. Cunningham. 84 pages. 8½ in. by 5½ in. Bound in cloth. Published by the University of Pennsylvania Press, Philadelphia, Pa. Price \$1.00.

This book makes available in printed form a pair of lectures delivered last April by Professor Cunningham, the James J. Hill Professor of Transportation at the Harvard Graduate School of Business, at Lafayette College, as the initial series under the Edward Eugene Loomis Memorial Foundation, established in memory of the late president of the Lehigh Valley. The lecturer, who is well-known to the railroad fraternity as a leading scholar of the industry and officially connected with the operations department of the war-time U. S. Railroad Administration, has packed a survey of the railroad field into a small space, taking up in order every important topic of timely interest.

At the time of delivery, his college audience were confronted by numerous pros-and-cons in the daily press as transportation legislation was going through the committees. Are trucks subsidized? What is wrong with the railroads' capital structure? Are they really going bankrupt? Are the panaceas proposed any good? These and scores of other questions Professor Cunningham considers briefly but roundly, coupled with expressions of definite personal opinions rare in these days of "hanging-in-air" treatises.

Chief of the lectures' virtues is timeliness. Even the section titled "Railroads During Their First Century" sticks pretty closely to those subjects—such as war-time operation and the era of Section 15a—which are grist for today's mills. The following section, "under the New Deal," is a crystal-clear review of the decline of the railroads under progressive traffic losses, tax increases, competition, etc. Next, proposed legislation (i. e. in the late Congress) is frankly discussed against a rich background of past experience which is sifted over to bring light to bear on our politicians' generalizations.

As for "the outlook," the author believes that, "If we are in for an indefinitely prolonged period of business uncertainty and inactivity, there appears to be no escape from the ultimate expedient of government ownership of railroads. If, on the other hand, there should be an early resumption of business activity on pre-depression scale, the substantial improvement in railroad earnings would quickly push the railroad problem into the background, where it might remain until the next depression."

Of management's labor policies, he finds no cause to criticize its recent decision to rescind the wage cut notice but declares that criticism will be deserved if management "fails now to make a serious effort to revise the working rules under which certain classes of employees are paid substantial sums for work not done, and the operating expenses burdened by the unnecessary employment of men under the 'make-work' rules."

Finally, he reiterates his oft-expressed view that the railroads suffer from excess "corporate individualism" and declares that the roads cannot expect sympathetic public support when opportunities for savings are blocked by the selfish interests of individual companies.

The History of the New York, Susquehanna & Western Railroad, by Walter Arndt Lucas. 116 pages. 10¾ in. by 7¾ in. Bound in paper. Published by Railroadians of America, New York. Price \$2.

This, the initial publication of a new organization of railroad devotees and researchers, comes forth at a particularly opportune time, since the road which it publicizes is currently attracting attention by the activities of its trustee in modernizing equipment and services. A small railroad—stretching but 239 route-miles at the period of its greatest length and now reduced to a main line of a bit over 100 miles—the Susquehanna has passed through a career of ups-and-downs which has so attracted the author as to lead him to search for the past 20 years in scattered and buried materials to produce a substantial volume notable for detail, accuracy and extent of original sources. In preparation of the work he has, for example, completely surveyed the files of newspapers of the principal towns on the line, talked with scores of men connected with the road and their descendants, and followed "leads" and scoured attics for missing links in the chain.

In most cases, the author has quoted in full contemporary accounts of successive developments, preserving the flavor of a more enthusiastic and wonder-full era. For illustrations, he has dug up a rare collection of old photographs and engravings, including a group of 35 views of old motive power and cars. Otto Kuhler, designer of a number of modern passenger streamliners, produced the pen sketch which appears on the front cover.

NEWS

Reveals Details of Nevada Crime

Depraved cunning of Harney
criminals described by
S. P. president

A moved rail caused the derailment of the streamliner, "City of San Francisco" at Harney, Nev., on August 12, according to A. D. McDonald, president of the Southern Pacific. The statement just issued is the first made by Mr. McDonald since the accident.

"Our people," he said, "immediately after performing their first urgent duty of getting word through for relief, made a preliminary survey of the scene, including the tracks, which at once revealed the cause of the wreck. This evidence, augmented by later discoveries, fully supports the coroner's verdict that the wreck was caused by person or persons unknown moving or shifting a rail.

"Spikes were removed from ten ties and the bolts and angle bars which connect the two rails were also removed. This permitted the criminal or criminals to force the rail four inches out of line, in which position it was spiked down to serve as a derailling switch. Care was taken, however, not to interfere with the flexible bond wires between the two rails, which, if broken, would have automatically set the block signals at stop position and averted the tragedy.

"Many clues as to the person or persons responsible for the wreck have been received, and every clue, however slight, is being investigated fully. This work will be pushed to conclusion as quickly as possible, with a view to apprehending the guilty at the earliest possible moment.

"All the evidence points to the fact that the wrecking of the streamliner was planned with craft and deliberation. The wrecker or wreckers chose a spot on a curved section of the track, 170 ft. from a bridge which is 35 ft. over the Humboldt river, and has deep embankments on both sides of the track at an isolated location more than a mile from the nearest road and several miles from the nearest dwelling. The result was a tragedy that took the lives of nine passengers and fifteen employees and injured 108.

"Terrible as this disaster was, it might have been worse had it not been for the strength of the modern lightweight equipment in the train. Of the 17 cars in the train only five, two sleeping cars and three other cars, were damaged to such an ex-

tent that they will have to be replaced by new units. The other six sleeping cars were damaged to the extent of about \$70,000, which is a relatively small amount considering the total cost of this equipment and the force of the impact it experienced.

"The rail in the tracks where the accident occurred was of 130-lb. weight per yard, as heavy and as strong as there is on our railroad, and was in perfect condition. The track was heavily ballasted with crushed rock. The ties were in first class condition. Our signal equipment is as fine as any in the world, but despite the use of all protective devices and mechanical safeguards and despite constant vigilance of inspection, we were powerless to prevent the act that sent the City of San Francisco to disaster.

"Our feeling against the person or persons responsible for this tragedy cannot be expressed in words and to the full extent of our facilities and our individual abilities we are aiding in the hunt for the guilty.

"Assisting in this hunt is the Federal Bureau of Investigation, U. S. Department of Justice. In response to my telegraphic request, J. Edgar Hoover, Director of the Bureau, issued instructions immediately to his agents to proceed at once by airplane and automobile to the scene of the wreck to investigate the cause and locate as quickly as possible the guilty person or persons. Mr. Hoover's agents are working night and day on the case, and the remarkable success of his department in apprehending kidnappers and lawbreakers justifies the belief that the person or persons responsible for the wreck will soon be apprehended.

"Southern Pacific railroad police are actively at work on the case, and state, county and local police officers of Nevada, including the state highway patrol officers, are co-operating with Mr. Hoover's agents in every way."

French War Ministry Takes Over Railroads

By a governmental decree issued on August 31, the entire 26,500-mile French National Railway system was turned over to the War Ministry as a part of the country's preparation for a possible war, should German-British peace negotiations go on the rocks. This move means that all non-military passenger and freight traffic, with the exception of evacuation movements of civilian populations, will be subordinate to army needs. The national system comprises all of the country's main line mileage.

I. C. C. Stakes Out Motor Haul Sphere

Claims jurisdiction over local
contract haul of interstate
rail shipments

Motor carriers operating on intrastate routes are subject to Interstate Commerce Commission jurisdiction when they handle traffic with respect to which the facts disclose a "persistent and continuing intention" that such traffic shall move in interstate commerce when it leaves its point of origin. Such is the finding of a decision wherein the commission's Division 5 grants a contract-carrier permit to William E. Rush, doing business as Rush Transportation on Idaho routes between Patterson and Mackay and between Mackay, Pocatello and Blackfoot and Patterson.

Because the applicant's contention that he did not require authority from the I. C. C. presented the question of jurisdiction, Division 5 proceeded to discuss that question "in the light of its importance and bearing on other similar proceedings, where motor vehicle operations are confined within the boundaries of a single state and conducted under circumstances paralleling those considered herein." Chairman Eastman in a separate concurring opinion agreed "reluctantly" with the results reached in the majority opinion; he had hoped that different conclusions might have been reached because of his belief that "successful public regulation of motor carriers, unlike railroad regulation, demands as much decentralization as possible."

While Rush's operations to date have been performed under a contract with the Ima Mines Corporation at Patterson Creek, Idaho, the applicant sought a certificate as a common carrier, having been advised that such was the proper form of authority. However, he asked that the application be regarded also as a request for a contract-carrier permit, and it is upon the latter basis that the commission considered it. The operations consisted in the hauling of ore and concentrates from the Ima Mines, near Patterson, to the rail station at Mackay, from which point the ore moves generally to points outside of Idaho over the lines of the Union Pacific. On return trips from Mackay the applicant has transported machinery and supplies to the mines, and occasionally he has transported machinery from Pocatello and Blackfoot to the mines. The machinery and supplies

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7 Months N. O. I. Was \$214,762,841

1.66 per cent return compares
with 0.85 per cent in same
period of 1938

Class I railroads of the United States in the first seven months of 1939 had a net railway operating income of \$214,762,841 which was at the annual rate of return of 1.66 per cent on their property investment, according to the Bureau of Railway Economics of the Association of American Railroads. In the first seven months of 1938 their net railway operating income was \$109,616,765 or 0.85 per cent, and in the first seven months of 1930, it was \$450,935,427 or 3.48 per cent.

The July net was \$49,011,915 or 2.07

totalled \$1,038,750,628, an increase of 13.6 per cent compared with 1938, but a decrease of 33.6 per cent compared with 1930; operating expenses totalled \$774,779,209, an increase of 7.9 per cent above the same period in 1938, but a decrease of 34.1 per cent under the first seven months of 1930.

Class I roads in the Eastern district for July had a net of \$24,589,217, compared with \$16,572,787 in July, 1938, and \$38,379,153 in July, 1930.

Net in the Southern district for the first seven months totalled \$36,398,755 or 2.09 per cent, for the same period in 1938 it was \$24,530,258, or 1.41 per cent, and for the same period in 1930 it was \$48,370,223 or 2.61 per cent. Gross in the Southern district for the first seven months amounted to \$286,404,508, an increase of 8.0 per cent compared with the same period in 1938, but a decrease of 26.8 per cent under the

Demise of Stocker and Feeder Rates?

Examiners would permit substitution of partial refund on full livestock charges

Examiners Chester E. Stiles and David T. Copenhafer have recommended in a proposed report that the Interstate Commerce Commission authorize the cancellation of local and proportional rates on stocker and feeder livestock within the Western district and the establishment for such traffic of transit rules under which a partial refund of initially-paid freight charges may be secured. The proposed set-up, as the examiners point out, would have the effect of eliminating from the tariffs all use of the term "stocker and feeder livestock," which the railroads "for more than 50 years" have recognized as "a separate and distinct commodity from livestock intended for immediate slaughter."

The proposed report comes after further hearing in Part 9 of the No. 17000 Rate Structure Investigation growing out of the Hoch-Smith Resolution; and it also embraces I. & S. Docket No. 4541, Livestock, West to Central and Southern States. In the latter connection the examiners would authorize cancellation of transit arrangements under which Western lines make refunds out of Western rates on account of transit on Eastern and Southern lines. Meanwhile they would disapprove the railroads' proposal to base freight charges on stocker and feeder livestock on the higher carload minimum weights applying on animals fit for slaughter, subject to readjustment to the present stocker and feeder minima if readjustments of the freight charges is subsequently made in accordance with the above-mentioned transit rules. "If the respondents," the examiners say, "wish to treat livestock, so far as concerns the application of the initial charges, which may prove to be the ultimate charges, as a single commodity, they must apply on that commodity a minimum weight to which the commodity is capable of being loaded. The minima which have been found reasonable for stocker and feeder must then become the minima on all ordinary livestock."

Giving the background of the proceeding the examiners explain that in a 1931 decision the commission prescribed carload rates and minimum weights on livestock fit for slaughter between all points within the Western district, which rates are called the 100 per cent rates; and it prescribed as rates on stocker and feeder livestock charges not in excess of 85 per cent of these 100 per cent rates. Proportional rates lower than the locals, in connection with both rate levels, to the Mississippi river and Chicago on direct shipments to points east were also prescribed. In proposing the arrangements whereby the 85 per cent local rates would be withdrawn in favor of an initial application of the 100 per cent rates on all livestock accompanied by the transit rules under which the re-

(Continued on page 356)

CLASS I RAILROADS—UNITED STATES

Month of July

	1939	1938	1930
Total operating revenues	\$332,435,852	\$299,589,726	\$451,786,925
Total operating expenses	241,962,091	222,166,822	327,955,974
Taxes	30,013,181	28,035,056	30,949,817
Net railway operating income	49,011,915	38,431,251	81,470,731
Operating ratio—per cent	72.78	74.16	72.59
Rate of return on property investment	2.07	1.62	3.55
Seven Months Ended July 31			
Total operating revenues	\$2,136,562,408	\$1,935,656,766	\$3,111,900,121
Total operating expenses	1,642,706,254	1,553,760,919	2,378,147,109
Taxes	201,994,757	196,904,339	208,450,360
Net railway operating income	214,762,841	109,616,765	450,935,427
Operating ratio—per cent	76.89	80.27	76.42
Rate of return on property investment	1.66	0.85	3.48

per cent, compared with \$38,431,251 or 1.62 per cent in July, 1938, and \$81,470,731 or 3.55 per cent in July, 1930.

Gross operating revenues for this year's first seven months totalled \$2,136,562,408 compared with \$1,935,656,766 for the same period in 1938, and \$3,111,900,121 for the same period in 1930, an increase of 10.4 per cent in 1939 above 1938, but 31.3 per cent below 1930. Operating expenses amounted to \$1,642,706,254, compared with \$1,553,760,919 for the same period in 1938, and \$2,378,147,109 for the same period in 1930—5.7 per cent above the former, but 30.9 per cent below 1930.

Class I roads in the seven months paid \$201,994,757 in taxes, compared with \$196,904,339 in the same period in 1938, and \$208,450,360 in the same period in 1930. For July alone, the tax bill amounted to \$30,013,181, an increase of \$1,978,125 or 7.1 per cent above July, 1938. Twenty-seven Class I railroads failed to earn expenses and taxes in the first seven months, of which nine were in the Eastern district, five in the Southern district, and 13 in the Western district.

Gross for July amounted to \$332,435,852 compared with \$299,589,726 in July, 1938, and \$451,786,925 in July, 1930; operating expenses totalled \$241,962,091 compared with \$222,166,822 in the same month in 1938, and \$327,955,974 in July, 1930.

Class I roads in the Eastern district for the seven months had a net railway operating income of \$127,648,646, or 1.93 per cent; for the same period in 1938, their net was \$65,816,822 or 0.99 per cent, while in 1930 it was \$254,169,877 or 3.99 per cent. Gross in the Eastern district for the seven months

same period in 1930; operating expenses totalled \$216,640,286, an increase of 4.2 per cent above the same period in 1938, but a decrease of 30.3 per cent under 1930.

The July net in the Southern district was \$4,710,685, compared with \$3,619,128 in July, 1938, and \$5,429,199 in July, 1930.

Class I roads in the Western district for the seven months had a net of \$50,715,440, or 1.12 per cent. For the same period in 1938 those same roads had a net of \$19,269,685, or 0.43 per cent, and for the same period in 1930 they had a net of \$148,395,327 or 3.12 per cent. Gross in the Western district for the first seven months amounted to \$811,407,272, an increase of 7.3 per cent above the same period in 1938, but a decrease of 29.8 per cent below the same period in 1930; operating expenses totalled \$651,286,759, an increase of 3.8 per cent compared with the same period in 1938, but a decrease of 26.9 per cent under the same period in 1930.

For July the Western district net was \$19,712,013 compared with \$18,239,336 in July, 1938, and \$37,662,379 in July, 1930.

Would Grant Frisco Certificates for Missouri Bus Routes

Joint Board No. 179, composed of John C. Highberger of Missouri, has recommended in a proposed report that the Interstate Commerce Commission grant common-carrier bus certificates to the Frisco Transportation Company, affiliate of the St. Louis-San Francisco, for operations over three Missouri routes. The routes involved are between Caruthersville and Cardwell; Caruthersville and Arbyrd; and Poplar Bluff and Cape Girardeau.

Truck Costs Much Higher Than Rail

Cost data shows big railroad advantage on California-Arizona oil traffic

Railroad rates which already have competing motor carriers crying for help are higher than reasonable minimum rates for the transportation of petroleum and petroleum products from California to Arizona, according to recommended findings of Examiner Frank E. Mullen's proposed report in the No. 27565 proceeding wherein the evidence included comparative cost data compiled in accordance with formulae developed by Arthur F. White, head cost

Railway Age of August 27, 1938, page 330.

As the accompanying table shows, the railroad costs of handling the petroleum traffic are sufficiently low to warrant further competitive reductions in rates if such became necessary. The competing motor carriers admitted that their costs are substantially higher than those of the railroads, but requested the commission to order the rail rates on refined petroleum increased, as the examiner put it, "to a level which will permit them to continue to participate in the traffic and to earn a profit." In other words, it seems, that they want the commission to regulate rail rates for the benefit of motor carriers without much reference to preserving the "inherent advantages" of rail transport. Such a determination, as Examiner Mullen sees it, would be "regulation in the interest of

Critics Rap Two Agreed Charges

An oil company kicks in Ont. while truckers howl on the prairies

Canada's Board of Transport Commissioners has under consideration whether it will ratify the "agreed charges" between the railways and most of the oil companies operating in Ontario, which would reduce the rail rates on petroleum products approximately 25 per cent.

In the first hearing by the Board of protests against agreed charges under the transport legislation passed in 1938, the Goodrich Oil Company this week asked the commissioners to disallow the arrangement, claiming it was unfair to small companies. The Board reserved judgment at the conclusion of the arguments.

The Board also will hold hearings in the West in connection with another agreed charge for transporting petroleum products in the prairies with several truck companies as the objectors. There is no connection between that arrangement and the one in Ontario, however.

Under the agreement to which the Goodrich Company objects, the major oil companies bind themselves not to use trucks holding more than 1,200 gal. for hauls in excess of 25 miles. Railways in the agreement with the Ontario oil companies, are the Canadian National, Canadian Pacific, New York Central, Pere Marquette, Toronto, Hamilton & Buffalo, Wabash and several smaller lines.

Such agreements come into effect only when ratified by the Board of Transport Commissioners and the Goodrich Oil Company with a refinery at Port Credit protested.

The Goodrich company can come into the arrangement if it desires but alleged that it was unfair because companies accepting the agreements were prohibited from establishing any new marine terminals before November 1, 1940, and from using trucks capable of carrying more than 1,200 gallons on hauls longer than 25 miles.

This, it was claimed, placed the Goodrich company at a disadvantage with only one marine terminal and six tank stations on railways as compared with competing oil companies with more marine terminal facilities and more stations on railways. The arrangement, it was asserted, favored the big companies as against the smaller ones.

The railways pressed the Board to ratify the agreement. They had been the result of very careful study, counsel said, and had been delayed already in order to give the Goodrich company time to make adjustments to take advantage of the arrangement.

Judgment is expected within a month.

British Rail Union Calls off Strike in War Crisis

Leaders of the British Associated Society of Locomotive Engineers & Firemen, a few hours after last week's *Railway Age*

Comparative Costs
By Railroad Carriers

From	To	Railroad*	Distance one way, miles†	Rate, cents‡	Costs§	
					Excluding return, cents	Including 5¼% return, cents
Los Angeles	Yuma	SP	253	20	9.4	11.4
Fillmore	Yuma	SP	306	20	9.8	12.2
El Segundo	Kingman	SF	385	35	18.8	24.4
Los Angeles	Phoenix	SP	427	33	11.1	13.7
		SF	485	33	20.3	26.2
Fillmore	Phoenix	SP	481	33	13.0	16.1
Los Angeles	Tucson	SP	504	42	13.4	16.5
Los Angeles	Flagstaff	SF	537	54	20.0	25.9
Los Angeles	Nogales	SP	570	55	15.9	19.7
El Segundo	Holbrook	SF	645	64	24.1	31.0
Bakersfield	Nogales	SP	737	55	20.6	25.5

* SP—Southern Pacific; SF—Atchison, Topeka & Santa Fe.

† Distance over route of movement as reported.

‡ Rates and costs in cents per 100 lb.

By Carriers by Motor Vehicle

From	To	Highway distance one way, miles	Motor carrier*	Rates to destinations§		Costs§	
				On rails, cents	Off rails, cents	Excluding return, cents	Including 5¼% return, cents
Los Angeles	Yuma	267	EB	20	24	27.6	28.1
				20	24	27.4	28.0
Los Angeles	Yuma	267	PTL	20	24	29.4	29.9
Fillmore	Yuma	318	LTC	20	24	30.9	31.5
Los Angeles	Phoenix	395	EB	33	38	37.6	38.4
Los Angeles	Phoenix	395	C&T	33	38	38.8	40.0
Fillmore	Phoenix	446	LTC	33	38	43.5	44.4
Los Angeles	Tucson	511	RTS	42	47	46.9	48.4
Los Angeles	Tucson	511	PTL	42	47	56.0	57.2
Los Angeles	Tucson	537	CTL	42	47	53.0	54.1
Los Angeles	Flagstaff	475	PTL	54	59	52.1	53.2

* EB—Ellington Bros., Ltd.; PTL—Pacific Tank Lines; LTC—Lang Transportation Corp.; C&T—Cantlay & Tonzola, Inc.; RTS—Reliable Tank Service; CTL—Capital Tank Lines.

† Gasoline propelled.

‡ Diesel propelled.

§ Rates and costs in cents per 100 lb.

analyst and assistant director of the Interstate Commerce Commission's Bureau of Statistics. The cost figures, set forth in the accompanying table, show that the rail costs, including a 5¼ per cent return, are less than the present rates for all hauls involved, whereas the motor carrier costs, plus a return, are higher than the truck rates to on-rail points and to off-rail points except in one instance.

This proceeding is the second of two cases wherein the White formulae have been employed to develop data on the relative costs of transportation by rail and motor carrier. In the previous case, involving the rates on naval stores from Mississippi points to Gulf ports, the figures also showed that the railroads had a cost advantage. Examiner Charles M. Bardwell's proposed report in the naval-stores-to-Gulf-ports case was reviewed in the

the high-cost agency rather than in the public interest."

"When the costs of performing certain transportation services do not greatly differ as between the rail and motor carriers, which are competing for the traffic," the examiner had previously observed, "the rates of each carrier possibly may be successively reduced without undue harm so long as there is some margin between such rates and the costs. The rates, however, under the stress of such competition may decrease until they reach or even fall below the out-of-pocket cost, depending upon the intensity of the desire for the traffic. The competition, if unrestrained, tends to become destructive and if long continued under such conditions will decrease the financial stability of the carriers concerned and make it difficult for them to provide

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went to press, called off a strike of engine crews and hostlers scheduled for midnight, August 26. Government leaders feared the possible danger of a national transportation tie-up by such key employees and prevailed upon the union to resort to the regular wage negotiation machinery for satisfaction of their demands. Late press dispatches state that the three British railway unions have each presented their claims to the Railway Staff National Council, the joint conference body of the unions and the four trunk-line railroads.

Annual Meeting of Traffic Clubs to be Held at Chicago

The annual meeting of the Associated Traffic Clubs of America will be held in Chicago on November 6, 7 and 8.

Club Meetings

The Northwest Car Men's Association will hold its next meeting on September 6 at the Midway Club, St. Paul, Minn. The program consists of an open discussion on questions and problems of car inspectors and car repairers.

The Car Foremen's Association of Chicago will hold an "open meeting night" at the La Salle hotel, Chicago, on September 11.

"Exposition Flyer" To Be Permanent

The "Exposition Flyer" which was placed in service by the Chicago, Burlington & Quincy, the Denver & Rio Grande Western and the Western Pacific between Chicago and San Francisco, on June 10, for the summer months, will become a permanent daily train as a result of action taken by the three roads on August 27.

The train includes sleeping cars, both standard and tourist, reclining chair cars, lounge-observation cars and dining car service, which is supplemented by "economy" meals served on trays. Porter service and pillows also are provided for coach and chair passengers.

Auto-Railer Seeks to Abandon Operations

Division 4 of the Interstate Commerce Commission has dismissed for want of jurisdiction an application of the Arlington & Fairfax Auto Railroad for authority to abandon its operations extending from Rosslyn, Va., to Fairfax and from Rosslyn, Va., to Green Valley. The company operates auto-railers which run on both the railroad tracks and the highways by utilizing two sets of wheels.

Application for authority to abandon operations has also been filed with the Virginia Corporation Commission and it is expected that the application will be acted upon shortly.

P. F. E. Joins Agriculture Department in Bunkerless Reefer Test

Nine refrigerator cars loaded with lettuce and carrots arrived by carfloat in New York August 27, after a test run across the continent from Salinas, Cal., to demonstrate the possibility of eliminating bunker icing in perishable movements. The test cars were prepared entirely by crushed or flaked ice. Pacific Fruit Express has for

some time, in loading lettuce, placed crushed ice between the crates of vegetables and blown it over the tops by special machinery, as explained in the *Railway Age* of August 5.

Members of the test party were: W. R. Bargar, associate physiologist, U. S. Department of Agriculture, Fresno, Cal.; Dr. LeRoy Weaver, research specialist, Salinas; C. A. Richardson, superintendent of refrigeration, and R. A. Doering, test engineer, both of Pacific Fruit Express, San Francisco, Cal.; and Herbert Whitted, Walter Nielson and R. E. Myers of the Growers-Shippers Association, Salinas. The experimental work is being conducted under the direction of Mr. Bargar and the Department. Test charts and records are still in process of preparation and public statements as to the results of the work are not yet available.

Northern Pacific Subsidiary Asks I. C. C. Authority

The Northern Pacific Transport Company, a wholly-owned subsidiary of the Northern Pacific, has asked the Interstate Commerce Commission for authority to purchase the property, rights and franchises of I. F. Hoy, doing business as the Red Lodge-Billings Truck. The operation involves rights between Red Lodge, Mont. and Billings.

Practitioners to Meet in San Francisco September 7 and 8

The tenth annual meeting of the Association of Practitioners before the Interstate Commerce Commission will be held at the Palace Hotel, San Francisco, Cal., on September 7 and 8. Besides committee reports, the program includes an address by Clyde B. Aitchison, a member of the Interstate Commerce Commission, on "The Reorganized Interstate Commerce Commission"; another by Luther M. Walter, co-trustee of the Chicago Great Western, on "The Association and the Interstate Commerce Commission"; one by John L. Rogers, a member of the Interstate Commerce Commission, on the "Regulation of Motor Carriers"; and another by Professor Edwin F. Albertsworth of Northwestern University School of Law, on "Should the Practice under I. C. C. vs. Brimmon Be Altered?" At a luncheon on September 7, Henley Booth, general attorney of the Southern Pacific, will be the speaker.

Ipswich to Paint Its "Depot"

The 6,000-odd people of Ipswich, Mass., located on the shore line of the Boston & Maine between Boston and Portland, Me., decided several weeks ago that their railroad station (or "depot", as they call it) needed a good coat of paint. Railroad earnings being what they are, they hesitated to ask such an outlay from the railroad at this time. Negotiations and plans went on with the result that the population turned out in full force on August 12 to celebrate a joint venture whereby the B. & M. will furnish materials and the town will pay for the labor from funds already raised by popular subscription.

To mark initiation of the project, a parade of transportation progress was held

comprising vehicles ranging from a Concord stage-coach and "high-wheeler" bicycle to modern automobiles. Congressman G. J. Bates, recently returned from the Capitol, delivered the speech of the occasion, attired in white overalls during which he recalled that the depot had been a social center since the early 'Eighties and expressed gratification that Ipswichians had not forgotten it.

By popular vote the new paint is to be cream with black trim and will cover not only the station but neighboring crossing shanties and the express shed as well.

L. I. Fetes Five-Millionth World's Fair Passenger

H. T. Frushour, superintendent, Long Island, on August 26, presented a bouquet of orchids and a book of tickets to "Railroads on Parade" and other attractions at the New York World's Fair to Miss Jeanette Ecker of Woodside, L. I., who was the 5,000,000th passenger to patronize the railroad's "ten minutes to the World's Fair for 10 cents" shuttle service between Pennsylvania station, New York, and the fair.

I. C. C. Locomotive Inspection Chief to Address "Fans" in N. Y.

John M. Hall, chief of the Bureau of Locomotive Inspection, Interstate Commerce Commission, is to be the guest speaker at a joint meeting of the Railroadians of America (recently organized body of railroad "fans") and the New York Society of Model Engineers, to be held September 8 at headquarters of the latter society in New York. The subject will be "The Results of Federal Locomotive Inspection." During the same meeting the Railroadians will present to their hosts a large bell which was attached to Lackawanna locomotive No. 155, a "camel-back" of the 0-8-0 type used to haul "pull-out" freight trains between Hoboken, N. J., and Secaucus, before being scrapped.

July Volume of Truck Freight 21.7 Per Cent Above Last Year

The tonnage of freight moved by motor truck in July, while 7.2 per cent under the June total, was 21.7 per cent above that for July, 1938, according to the monthly survey compiled by American Trucking Associations, Inc. In the four July weeks of railroad carloadings, there was an increase of only 12 per cent over last year. The A. T. A. index, based on the 1936 monthly average as 100, stood at 113.56 for July and compared with 118.84 for June and 90.68 for July of last year.

Comparable reports were received from 214 carriers in 38 states, reporting aggregate loadings of 766,497 tons in July as compared with 826,297 tons in June and 629,695 tons in July, 1938. Volume of all classes of commodities reported for July decreased, compared with June, with the exception of petroleum products which showed an increase of 2.2 per cent over the previous month and a 24.2 per cent increase over July, 1938. In the general merchandise class, which represented about 75 per cent of the total tonnage reported, July volume was 6.6 per cent under June,

but 20.4 per cent more than in July, 1938. A decrease of 8.6 per cent under June was disclosed in the movement of iron and steel. The July tonnage, however, was 66.4 per cent more than July a year ago.

While the movement of cars and trucks by automobile transporters was 41.9 per cent greater than July, 1938, the volume reported for July 1939, showed a decrease of 35.4 per cent under the previous month. This decrease, the largest reflected by any class of carriers, the A. T. A. statement said "was expected as a result of the 1939 model season approached its close. More drastic decline in this class is anticipated in August, due to the confused labor situation delaying production on 1940 models."

Included in the total tonnage were figures on the movement of household goods, tobacco, livestock, groceries, textile products, dairy products and machinery and parts. This miscellaneous group showed a 2.5 per cent decrease under June, but a 11.5 per cent increase over July a year ago.

Would Deny N. J. & N. Y. Mail Pay Increase

The New Jersey & New York will be unable to collect a higher rate for the mail transported by it if the Interstate Commerce Commission adopts a proposed report of its examiner M. J. Walsh, who has found that the road is not a separately operated line within the meaning of the commission's findings and orders in the Railway Mail Pay case, 144 I. C. C. 675. In a prior report Division 5 found that the company was not separately operated, but after the road went into trusteeship as a part of the Erie system and the Erie trustees were appointed trustees of the property, it petitioned the commission for a redetermination of its case, contending that it was a separately operated road of less than 50 miles in length and was entitled to a higher rate of mail pay than it was then receiving.

The Postoffice Department contended that there had been no material change in the operations of the road since the prior

report had been issued. The prior report found that although the road had a separate corporate title, made in its own name separate operating and accounting reports, and filed separate freight and passenger tariffs, yet it had no operating equipment and depended entirely on the Erie, which controlled it, for its equipment. Examiner Walsh finds that the same situation now obtains as did at the time that the prior report was issued.

In 1938 the mail revenue of the road was \$9,257. If it had been classified as a road of less than 50 miles in length, that figure would have been increased to \$20,807, an increase of \$11,550.

The Canadian Roads in July

In July, the Canadian Pacific had net operating revenues of \$626,160—up \$118,823 from last year. Gross totaled \$11,657,403 (up \$567,377) and expenses were \$11,031,242 (up \$448,554). For the seven months C. P. R. operating net has been \$5,977,503 (a rise of \$2,789,138); expenses at \$67,487,743 are down \$1,701,444; and gross at \$73,465,247 is up \$1,087,693.

The Canadian National in July had an operating net of \$214,927 (last year there was a deficit of \$96,959). Operating revenues were \$15,563,648 (up \$1,386,931) and expenses were \$15,348,721 (up \$1,075,045). For the seven months operating revenues have been \$103,245,178 (up \$6,308,902), operating expenses \$103,535,668 (up \$822,451), and the net operating deficit \$290,490 (an improvement of \$5,486,451).

Freight Car Loadings

Loading of revenue freight for the week ended August 26, totaled 688,591 cars, the Association of American Railroads announced on August 31. This was an increase of 14,354 cars or 2.1 per cent above the preceding week, an increase of 68,034 cars or 11 per cent above the corresponding week last year but a decrease of 94,885 cars or 12.1 per cent below the comparable 1937 week.

As reported in last week's issue, the

loadings for the previous week ended August 19, totaled 674,237 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

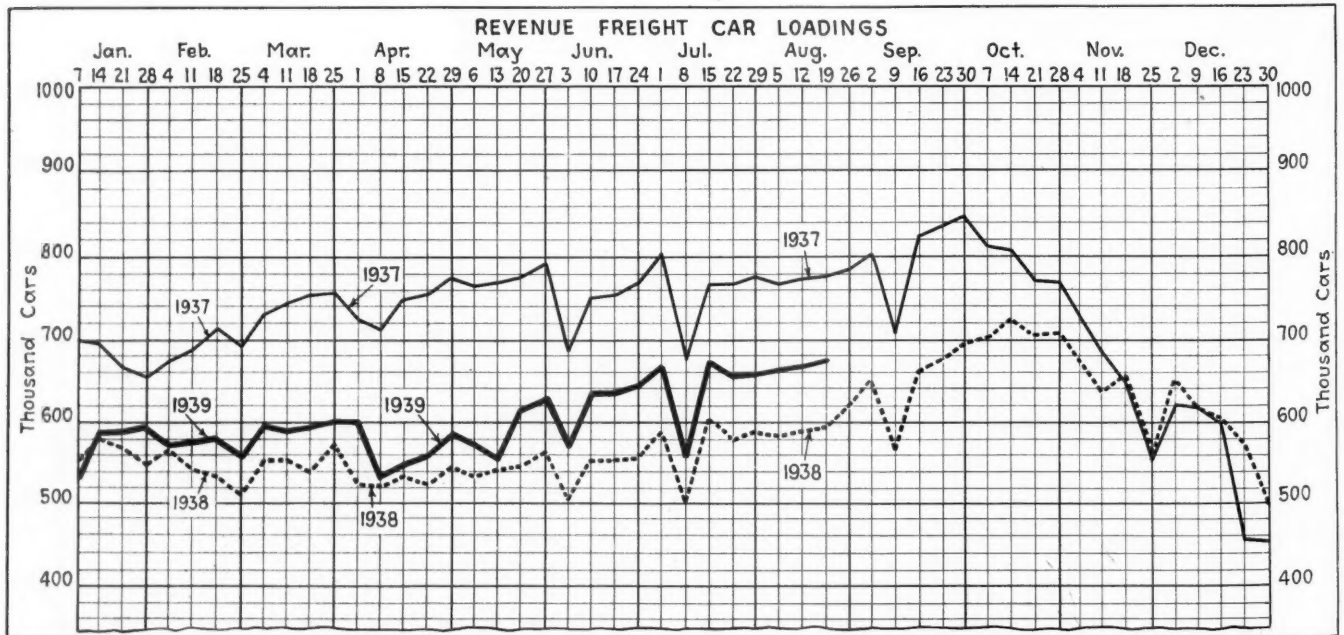
Revenue Freight Car Loadings			
For Week Ended Saturday, August 19			
Districts	1939	1938	1937
Eastern	135,284	115,052	151,723
Allegheny	129,480	107,014	155,471
Pocahontas	52,449	43,986	51,440
Southern	92,156	89,758	99,908
Northwestern	116,503	94,286	141,182
Central Western	103,618	102,514	119,727
Southwestern	44,747	45,274	57,699
Total Western Roads	264,868	242,074	318,608
Total All Roads	674,237	597,884	777,150
Commodities			
Grain and grain products	43,965	45,775	43,379
Live stock	12,566	12,059	15,009
Coal	118,692	95,293	116,133
Coke	6,813	4,759	9,519
Forest products	31,371	30,031	41,181
Ore	48,004	24,962	74,918
Merchandise I.e.l.	153,373	149,306	166,967
Miscellaneous	259,453	235,699	310,044
August 19	674,237	597,884	777,150
August 12	665,197	589,568	773,782
August 5	661,136	584,062	766,182
July 29	659,764	588,697	779,091
July 22	656,341	580,818	767,470
Cumulative Total,			
33 Weeks	19,892,718	18,275,087	24,349,192

In Canada.—Carloadings for the week ended August 19 totaled 49,230 cars, compared with 44,054 in the previous week and 47,189 in the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Aug. 19, 1939	49,230	18,480
Aug. 12, 1939	44,054	18,904
Aug. 5, 1939	45,320	19,639
Aug. 20, 1938	47,189	17,334
Cumulative Totals for Canada:		
Aug. 19, 1939	1,437,890	711,093
Aug. 20, 1938	1,445,675	666,621
Aug. 21, 1937	1,589,050	895,425

War Crisis Keeps British Engineers at Home

Unsettled conditions in Europe made it necessary for 300 British engineers, members of the Institution of Civil Engineers and the Institution of Mechanical Engineers, to cancel their plans to sail from



England on August 26 for New York, where the two institutions were to participate with the American Society of Civil Engineers, the American Society of Mechanical Engineers, and the Engineering Institute of Canada in a "British-American Engineering Congress," September 4 to 8, inclusive. All functions arranged for the congress and the fall meetings of the A. S. C. E. and the A. S. M. E., which were being held in conjunction with the congress, have been cancelled.

U. S. Court Rules I. C. C. Has Right to O. K. Branch Dismemberment

A three-judge court composed of a federal circuit and two district court judges sitting in Richmond, Va., in a decision dated August 16 refused to grant an injunction sought by the state of Georgia to prevent abandonment of a 40-mile portion of the Southern's Atlanta (Ga.)-Fort Valley branch between Roseland and Williamson. The state, the Georgia Public Service Commission and the county of Fayette had brought action against the railroad and the Interstate Commerce Commission asking an injunction against the abandonment, which had been authorized by the I. C. C. in May, 1938. Plaintiffs contended that the Fort Valley line was chartered as a whole by the state and that the Commission exceeded its powers in allowing abandonment of a portion of the line in the absence of evidence proving that the entire line was operating as a loss and thereby burdening interstate commerce.

In its ruling, the court, headed by Circuit Court Judge J. J. Parker of Charlotte, N. C., held that the I. C. C. order was valid and that the state charter is subordinate to the needs of the carrier in performing efficient interstate transportation.

The section slated for the scrap pile is duplicated by a line of the Southern running between Williamson and Atlanta via McDonough, over which passenger trains between Atlanta and Fort Valley have operated for years.

Nebraska Truckers Holler for Rate Changes

Proper classification and rate corrections to adjust tariffs to local conditions are being sought by Nebraska truckers through the Nebraska Commercial Truckers Association, which has decided to file application with the Nebraska State Railway Commission. Questionnaires filled out by truckers reveal that they want a 50-cent minimum rate throughout the state, instead of the present 25-cent rate. They suggest that the actual road mileage should apply on truck shipments rather than the air mileage. As a basis for truck rates, they advocate a per-mile basis not higher than railroad rates, but one that takes into consideration competition with private carriers, so that the rates may be lowered for this competition.

Former German Rail Executive Will Lecture at American University

Dr. Ludwig M. Homberger, former executive vice-president of the German National Railroad Company and lecturer in

German universities on transportation problems, will serve during the coming year as Visiting Lecturer on Transportation Problems at the American University Graduate School, Washington, D. C. The announcement by Chancellor Joseph M. M. Gray further identifies Dr. Homberger as one "who is author of many volumes dealing with transportation of all kinds and who has studied the situation from an international point of view and served as an executive of the German National Railroad Company both before and after it became nationalized."

Among his other activities in Germany, Dr. Homberger served as a member of the German delegation during negotiations leading to the Dawes and Young plans for collecting the post-war reparations. He has just finished a year of study of the transportation problems of the United States, having previously written a book on American railroads which was published in 1929. Also, he has previously lectured in this country.

"A feature of Dr. Homberger's courses," says the American University announcement, "will be inspection trips to transportation centers. These visits will include railroads, trucking concerns, pipe lines, water transport facilities, air transport facilities, and other transportation media, as well as telegraph, telephone, postal and radio communication."

Old Colony Passenger Service Abandonment Postponed

Effective date of discontinuance of passenger service on lines of the Old Colony in Massachusetts (operated by the New York, New Haven & Hartford, which leased the O. C. until disaffirmance in October, 1935) has been postponed from September 24, the date set by trustees of the Old Colony in a communication to the governor of Massachusetts (see the *Railway Age* for June 17, page 1053), to January 1, 1940, as a result of a conference between representatives of the New Haven, Old Colony bondholders and the Commonwealth of Massachusetts in New Haven, Conn., on August 28.

The meeting had been suggested by Judge Carroll C. Hincks of the United States district court having jurisdiction over the New Haven reorganization in the course of a hearing called in response to a petition of the Old Colony's trustees for advice on the possibility of extension of the discontinuance date. Governor Saltonstall of Massachusetts had asked for a "breathing spell" after the original abandonment date to enable investigation of the "whole transportation situation" by a special commission. The judge had forbidden the trustees to comply with the request unless approval of the road's security-holders was forthcoming, to which end he suggested the conference. At the close he requested that an appropriate order be framed immediately.

The first clause of the agreement covers the postponement decision. The second reads to the effect that the Old Colony trustees and the public authorities of the state would "forthwith confer to consider revisions of service and closings of sta-

tions to be immediately put into effect in order to cut the claimed losses as far as possible at once and further to consider a possible plan by which the Old Colony railroad can be made solvent for reorganization." A third clause reserves the right to the trustees to make immediate application to the Interstate Commerce Commission for complete abandonment of the so-called "Boston group" of lines, which had been threatened unless passenger losses were eliminated or at least diminished.

At the court hearing during which the special conference occurred, C. E. Smith, vice-president of the New Haven, testified that during a "low level" traffic year ending August 31, 1938, the Old Colony lines as a whole operated at a net deficit of \$2,227,085, of which the "Boston group" accounted for \$1,669,774. During a year of "improved level of traffic," ending May 31, 1937, the losses were \$1,492,765 and \$1,453,509, respectively.

In calling the conference, Judge Hincks declared that he assumed if the original date of termination of service were to stand, the state department of Public Utilities would call a hearing and eventually enter its own order, adding that "the subject-matter is of such magnitude that unquestionably it would eventually have to be submitted to the Supreme Court." In view of the delay and expense involved in such a procedure and his own obligation to speed the reorganization of both roads, he suggested the conference.

Truck Costs Much Higher Than Rail

(Continued from page 352)

adequate and efficient service. In these circumstances the power to prescribe minimum rates may be appropriately exercised in order to prevent destructive competition and to stabilize rates at a level which will provide a proper return for the services rendered. If the costs of one transportation agency are so high as to prevent profitable operation at rates which permit the competing agency to perform satisfactory service to the public and to earn a good profit therefrom, it seems obvious that the high-cost agency in meeting the rates of the low-cost agency is attempting to compete on a non-profit basis."

Aside from his above-mentioned recommended finding that the rail rates involved are higher than reasonable minimum rates, Examiner Mullen suggests that on the basis of the evidence of record the cost data "would appear to justify the maintenance of higher rates by the motor vehicle carriers." He added, however, that no other evidence indicated that the commission should require the motor carrier rates to be increased; while the testimony of shippers was to the effect that "they will not pay any higher rates on this traffic for service by motor vehicle carriers than for service by railroad to on-rail destinations." Meanwhile, "officials of several of the motor carrier respondents stated that if the present rates were kept in force they would continue to operate until their equipment

had to be replaced, or until extensive repairs were necessary; and that it was doubtful whether they would continue in the California-Arizona business after such time." Six principal carriers by motor vehicle, operating some 48 "heavy tank truck and tank trailer units," are involved; they are identified in the footnotes of the accompanying table.

Much of Examiner Mullen's proposed report is devoted to a setting forth of the White formulae and explanations of their application to the rail and truck costs involved. While the railroads stated that the White formula "produces reasonably accurate results," the Southern Pacific and the Atchison, Topeka & Santa Fe submitted additional cost studies upon a formula devised by C. E. Day, engineer in charge of the S. P.'s Bureau of Transportation Research. The costs shown by this Day formula, the examiner says, "do not differ materially from those obtained from the White formula." The "main criticism" of the latter by the S. P. is "that it costs too much to prepare as compared with the Day formula;" although, Mr. Mullen adds, "in the instant proceeding it was not shown that such costs were excessive." After listing other claimed advantages of the Day formula, the examiner observes that "if the formula can do all these things and do them cheaper it may prove to be a desirable one to use after its worth has been more fully shown. A careful study of this method should be made so that it may be applied in cases where the other formula is used so that both methods may be checked in actual use for the same movements of traffic and for the same quantities." Comparisons of costs derived under both methods in the present proceeding could not readily be made because of certain differences in the average weights used.

I. C. C. Stakes Out Motor Haul Sphere

(Continued from page 350)

moved to these points by rail, generally from points outside the state. Some of the traffic which applicant picked up at Pocatello and Blackfoot is said to have been billed to the mine.

In its discussion of the jurisdictional question, the commission refers to several pertinent decisions of its own and of the courts, "the latest federal court pronouncement on the question" being in the opinion of the Circuit Court of Appeals in *State of Texas v. Anderson, Clayton & Co.*, 92 Fed. (2nd) 104. It then goes on to say that the facts in the Rush case "disclose a persistent and continuing intention that the ore and concentrates shall move in interstate commerce when they leave the mines and this is also true of the inbound shipments of machinery and supplies. Applicant proposes to perform a part of that movement, although not under a joint rate with the rail carrier, or under any common control, management, or arrangement, for continuous shipment to or from points outside Idaho."

The fact that the transportation per-

formed by Rush is under a contract separate and distinct from that made in respect of the rail transportation, the commission adds, "complicates this and other similar cases." However it finds provisions of the Motor Carrier Act which give it "jurisdiction over carriers such as applicant, under the circumstances considered, in clear and unambiguous language." Thus the commission takes occasion to state that "while we are guided to our conclusions herein by the principles announced in the cited court cases, we are further impelled to such conclusions by what we regard as the unmistakable mandate of Congress as expressed in the act."

In his above-mentioned concurring opinion Chairman Eastman followed through from his assertion of a need for decentralized motor carrier regulation to suggest in that connection that "it is essential that the states, or other local authorities, assume as much of the burden as is consistent with the proper protection of the interests of interstate or foreign commerce." "It is desirable," the chairman went on, "that the federal government undertake no part of the regulation which can be done as well or better by these local authorities. To put it more concretely, it is undesirable that a little motor carrier whose small operations are confined within the bounds of a single state should have to look to Washington for his regulation, unless he plays a substantial part in interstate or foreign commerce and his operations are of real national significance. . . ."

Also, Mr. Eastman thinks that the question of whether a motor carrier, as a matter of law, is engaged in interstate commerce is "different in many of its aspects from the similar question which has frequently arisen with respect to railroad operations." Thus, he adds, the precedents in Supreme Court decisions relating to railroad operations "ought not to be slavishly followed. . . ." From there the chairman goes on to cite cases tending to support a view that an operation such as Rush's might be considered to be "independent local service, preliminary or subsequent to any interstate transportation," a service which may have a "close relation to interstate commerce" but is nevertheless "not properly to be regarded as a part of it."

Mr. Eastman has no doubt that motor carrier operations of such a character "should be subject to local rather than national regulation;" and he has "given some thought to the practicability of drawing such a line." In his opinion it might be held that to maintain the status of one performing "independent local service" it would be necessary for a motor carrier operating wholly within the confines of a single state: Not to participate in joint rates on interstate shipments; not to publish proportional rates applicable to interstate traffic; not to perform services the charges for which are absorbed or otherwise paid by another carrier in connection with transportation in interstate commerce; not to interchange equipment with an interstate carrier; not to be under common control or management with a carrier engaged in transportation in interstate commerce; and not to enter into arrangements for con-

tinuous carriage to or from a point in another state.

To Mr. Eastman the view that a motor carrier operating under such conditions is not engaged in transportation in interstate commerce has "much appeal." However, he points out that the decisions of the Supreme Court upon which the argument in support of this view are based "are not, in general, recent decisions." Thus his reluctant acceptance of the majority's conclusions, bolstered as they are by recent decisions, reflecting the tendency of the courts "to enlarge the limits of interstate commerce rather than to restrict them."

Demise of Stocker and Feeder Rates?

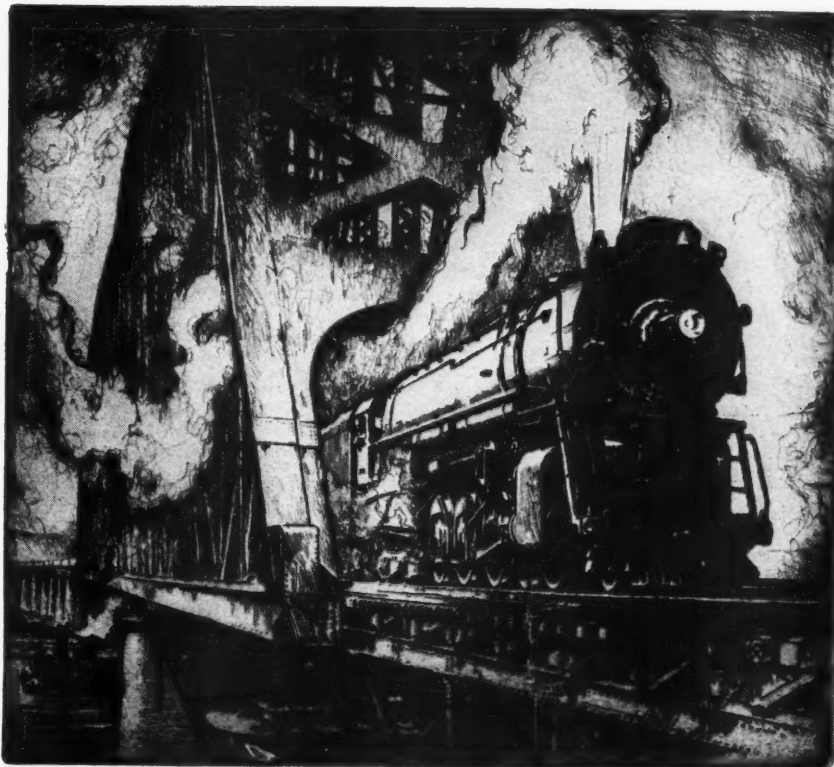
(Continued from page 351)

fund to the 85 per cent basis may be secured, the railroads advanced two principal arguments, namely, so-called abuses which have arisen under the present system of rates, and the substantial decline in the number of second or additional hauls of such livestock obtained by the rail carriers.

The examiners do not recognize as an "abuse" every application of the 85 per cent rates where the carriers fail to receive a second haul, pointing out that the commission prescribed the 85 per cent rates as "local rates, and not as proportional or transit rates." However, they do think that the term "abuse" may properly be used "to describe the devices resorted to by shippers or receivers to obtain transportation at the 85 per cent rates contrary to the provisions of the tariffs." Such devices included the moving of fat livestock at the 85 per cent rates to points adjacent to stations where slaughter houses are located for subsequent trucking into the slaughter houses; and the billing of dairy cattle as stockers and feeders. Instances of this kind, "by no means rare," are nevertheless thought by the examiners to have constituted "an extremely small portion of the movement under the 85 per cent rates, and the practice is decreasing."

Moreover they point out that the railroads failed to take advantage of authorizations from the commission to cancel the application of the 85 per cent rates to so-called public feed yards and to make application of the 85 per cent rates at slaughter points, which are not public livestock markets or public feed yards, dependent upon a further haul by rail. In the former connection, Messrs. Stiles and Copenhaver assert that many of the feed yards "are carrier owned," and with the lower rates attracting traffic to those yards, carrier competition "entered into the matter." Moreover, the failure to restrict the application of the 85 per cent rates at slaughter points "is also definitely shown to be due to failure of respondents to cooperate to that end." In other words, the examiners conclude that the abuses of the 85 per cent rates do not afford a justification for the proposed new arrangements; because the railroads "seem to have taken few or no steps to prevent the abuses," they "have not exhausted the methods

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within their grasp for the mitigation of these abuses."

It is therefore on the basis of the other principal contention of the railroads, namely, the "changed conditions," reflected in the decline in the number of second or additional hauls of stocker and feeder livestock obtained by the rail carriers, that the examiners would approve the proposed new arrangements. In this connection they hazard a guess that when the present system of dual rates was prescribed by the commission, the railroads obtained a second haul on not less than 85 per cent of the stocker and feeder traffic; while "it is extremely doubtful if the respondents now receive a further haul of 50 per cent of the animals initially transported at the 85 per cent rates." Also, the service now accorded to stocker and feeder livestock "is no less expensive than that accorded to livestock moving to markets." These, and other changes cited, "all adverse to the respondents," the examiners conclude, "fully justify, and in fairness require, either an increase in the percentage relation of the rates on stockers and feeders to the rates on slaughter animals, or a change in the conditions upon which the 85 per cent basis of rates shall continue to be applied. As the reopening was not broad enough to embrace the former, the latter is the only course open upon this record."

The report then proceeds to consider the proposed transit rules, which the examiners would approve with certain suggested modifications. Next it disposes in turn of the allegations of undue prejudice of markets and of the cancelation of the above-mentioned transit arrangements in connection with rates to points in the East and the South. In the former connection the examiners do not see that any purpose would be served by a specific finding upon the question of whether the markets are unduly prejudiced and other points unduly preferred under the present situation. "Any prejudice or preference which may now exist," they add, "will be removed" by the application of the new rules and regulations.

In summing up Messrs. Stiles and Copenhafer express doubt that the effect of the new arrangements which they would have the commission authorize "will be as fully satisfactory as respondents anticipated, either to themselves or to shippers," and they add a warning that "every added burden on the livestock industry has its effect in encouraging an increase in the volume of livestock transported by truck." Also, they give an illustration of what they regard as situations wherein "reshipping of livestock by rail is prevented by inadequate rail service."

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—R. P. Ives, Westinghouse Air Brake Co., 350 Fifth Ave., New York, N. Y.
ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.
AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R. M. & O. R. R., 327 S. La Salle St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 17-19, 1939, Philadelphia, Pa.
AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y. Annual meeting, October 26-28, 1939, Arlington Hotel, Hot Springs, Ark.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Union Station, St. Louis, Mo. Annual meeting, June 4-6, 1940, Hotel Stevens, Chicago, Ill.
AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 19-20, 1940.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Berger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill. Annual meeting, October 9-12, 1939, Hotel St. Francis, San Francisco, Cal.
AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, 319 N. Waller Ave., Chicago, Ill. Annual meeting, October 17-19, 1939, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York, N. Y.
AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—J. M. Hurley, N. Y. O. & W. Ry., Middletown, N. Y. Next meeting, December 8-9, 1939, Netherland Plaza Hotel, Cincinnati, Ohio.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in co-operation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 12-14, 1940, Palmer House, Chicago, Ill.
AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—M. W. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. Bldg., Baltimore, Md. Fall meeting, October 27-28, 1939, The Greenbrier Hotel, White Sulphur Springs, W. Va.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C. M., St. P. & P. R. R., 11402 Calumet Ave., Chicago, Ill.
AMERICAN SHORT LINE RAILROAD ASSOCIATION.—R. E. Schindler, Tower Bldg., Washington, D. C. Annual meeting, October 23-24, 1939, Hotel Continental, Kansas City, Mo.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y. Fall meeting, September 4-8, 1939, Hotel Pennsylvania, New York, N. Y. Annual meeting, December 4-8, 1939, Hotel Bellevue-Stratford, Philadelphia, Pa.
RAILROAD DIVISION.—Marion B. Richardson, 21 Hazel Ave., Livingston, N. J.
AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eve St., N. W., Washington, D. C. Annual meeting, January 23-25, 1940, Hotel Coronado, St. Louis, Mo.
ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.

Operations and Maintenance Department.—Transportation Bldg., Washington, D. C.
Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—I. C. Caviston, 30 Vesey St., New York, N. Y.
Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Medical and Surgical Section.—I. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—I. C. Caviston, 30 Vesey St., New York, N. Y.
Safety Section.—I. C. Caviston, 30 Vesey St., New York, N. Y.

Telephone and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 12-14, 1940, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 12-14, 1940, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Next meeting, October 24, 1939, Hotel Sherman, Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.
Mechanical Division.—V. R. Hawthorne, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.

Annual meeting, October 24-26, 1939, Hotel Sherman, Chicago, Ill.
Purchases and Stores Division.—W. J. Farrell, 30 Vesey St., New York, N. Y.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.
Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C. Annual meeting, 1940, White Sulphur Springs, W. Va.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C. Annual meeting, September 21-22, 1939, Hotel Pennsylvania, New York, N. Y.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, 1940, Providence, R. I.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—W. S. Carlisle, National Lead Company, 900 W. 18th St., Chicago, Ill. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4468 Oxford Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Korteiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 2514 W. 55th St., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y. Next meeting, September 28, 1939, Hotel Governor Clinton, New York, N. Y.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—F. T. James, Master Mechanic, Delaware, Lackawanna & Western, Hoboken, N. J. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.

INTERNATIONAL RAILWAY MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Clyde S. Bailey, New Post Office Bldg., Washington, D. C.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. F. A. Convention, March 11-14, 1940, International Amphitheatre, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Friday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

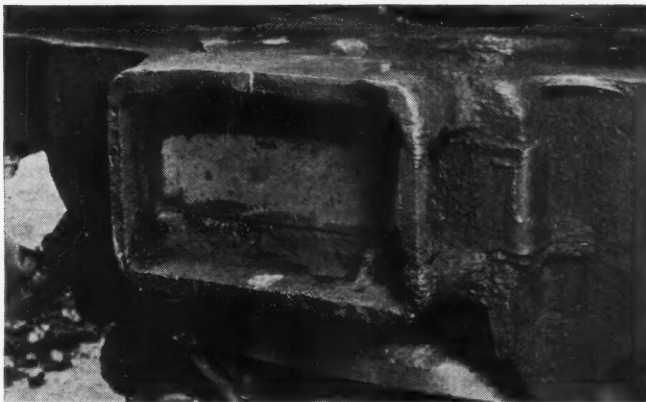
PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings, second Thursday of each month, alternately at San Francisco and Los Angeles.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill. Annual dinner, November, 1939, Hotel Stevens, Chicago, Ill.

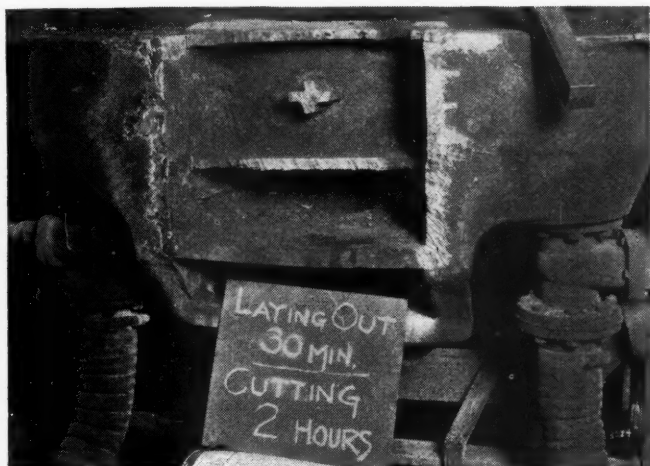
RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

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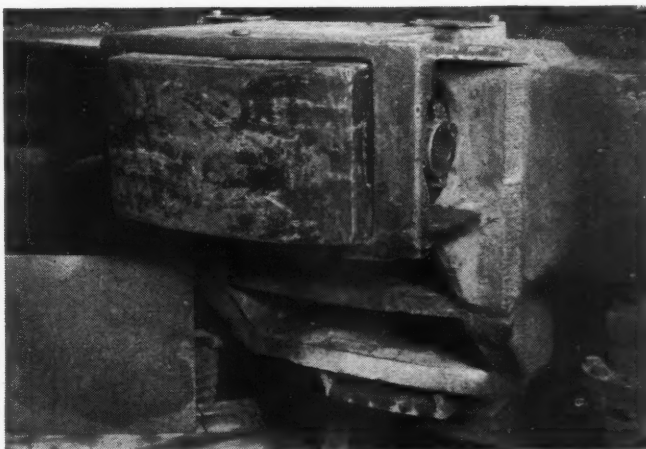
2 View showing cut-out section for application of E-2 chafing plate pocket.



3 Chafing Plate Pocket of E-2 Radial Buffer ready for installation in cut-out section illustrated on the left.

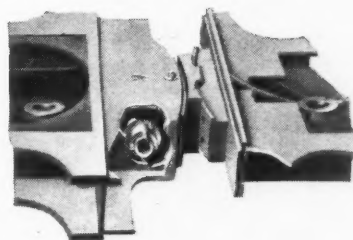


4 Welded to tender frame chafing plate pocket of E-2 Radial Buffer prior to installation of internal parts.



5 View showing assembled unit — tender end.

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RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—J. Mc C. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill. Next meeting, October 24-26, 1939, Hotel Sherman, Chicago, Ill.

RAILWAY FIRE PROTECTION ASSOCIATION.—(See Association of American Railroads.—Fire Protection and Insurance Section.)

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, 1255 Old Colony Bldg., Chicago, Ill. Annual meeting, October 17-19, 1939, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—C. A. Lichty, 319 N. Waller Ave., Chicago, Ill. Annual meeting, September 19-21, 1939, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R., Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. & C. Company, 59 E. Van Buren St., Chicago, Ill. Meets with Roadmasters' and Maintenance of Way Association.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 14-15, 1939, Hotel Roanoke, Roanoke, Va.

WESTERN RAILWAY CLUB.—W. L. Fox (Executive Secretary), Room 822, 310 South Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

Equipment and Supplies

LOCOMOTIVES

THE DETROIT, TOLEDO & IRONTON is inquiring for two locomotives of the 2-8-4 type.

THE BOSTON & MAINE has ordered two locomotives of the 4-8-2 type from the Baldwin Locomotive Works.

THE CHICAGO, BURLINGTON & QUINCY contemplates building 10 locomotives of the 4-8-4 type, in its shops at West Burlington, Iowa.

FREIGHT CARS

THE DELAWARE & HUDSON is inquiring for 1,000 all-steel hopper cars of 50 tons' capacity.

THE TENNESSEE COAL, IRON & RAILROAD COMPANY was incorrectly reported in the *Railway Age* of August 19, page 297 as having ordered ore cars of 70 tons' capacity from the Pullman-Standard Car Manufacturing Company.

THE UNITED STATES NAVY DEPARTMENT, BUREAU OF SUPPLIES AND ACCOUNTS, is asking for bids on September 8, for two

box cars. Separate bids are wanted on September 19 for two box cars of 50 tons' capacity and 40-ft. 6-in. long.

PASSENGER CARS

THE CHICAGO, NORTH SHORE & MILWAUKEE has received court approval for the complete modernization of 25 all-steel passenger cars in its own shops at a cost of \$89,450. New heating, ventilating and lighting systems and new seats will be installed, before the cars are redecorated.

IRON AND STEEL

LONG ISLAND.—A contract has been given to the Bethlehem Steel Company for 1,540 tons of fabricated steel for grade crossing elimination work on the Long Island at Aqueduct, N. Y. The Wilson & English Construction Company, New York, has the general contract for this work.

SIGNALING

WABASH.—An extension of automatic color light signals on the Wabash line from Moberly, Mo., to Huntsville, a distance of seven miles, has been authorized by the district court at St. Louis. The cost is estimated at \$23,500. If the cash balance of the railroad is sufficient, the receivers, under terms of another court order, will spend \$49,000 for a similar installation between Huntsville and Salisbury.

MACHINERY AND TOOLS

PACIFIC CONSTRUCTORS, INC., Shasta Dam, California, is inquiring for a 300-ton capacity locomotive-type wheel press, 84 in. between strain bars or larger.

THE CHESAPEAKE & OHIO has given a contract to the Industrial Brownhoist Corporation, Bay City, Mich., for cranes for handling ore, etc., at Pier No. 2, Newport News, Va., at a cost of \$328,000.

Supply Trade

The Bucyrus-Erie Company has moved its southern district office from Birmingham, Ala. to 1508 William-Oliver building, Atlanta, Ga.

The Markham Supply Company, 310 South Michigan avenue, Chicago, has been appointed railway sales representative of the H. K. Porter Company, Inc., Pittsburgh, Pa.

The directors of the Union Carbide & Carbon Corporation, New York, have approved an agreement for the acquisition by Carbide of all the assets of the Bakelite Corporation, New York.

H. V. Huleguard has been appointed general manager of The Whitcomb Locomotive Company, Rochelle, Ill., subsidiary of The Baldwin Locomotive Works. For several years Whitcomb

sales and engineering activities have been concentrated at Philadelphia, Pa. Effective September 1, these departments were transferred to Rochelle. Mr. Huleguard has been sales manager, Diesel locomotive division of Baldwin, for the past three years, previous to which he was general sales manager of Whitcomb.

The General Steel Castings Corporation, Eddystone, Pa., has opened a sales office at 310 S. Michigan avenue, Chicago, and has promoted John A.



John A. McCormick

McCormick, sales engineer, to district manager in charge of the new office. Frank B. Barclay, sales representative at Granite City, Ill., has been transferred to Chicago to assist Mr. McCormick. Mr. McCormick has been associated with the General Steel Castings Corporation and its predecessor, the Commonwealth Steel Company, since 1916. He served in the engineering department at Granite City until 1930, when he was appointed sales engineer at Eddystone, Pa.

OBITUARY

G. E. Geer, for many years a representative of the Nordberg Manufacturing Company, the Wyoming Shovel Works and more recently, the Sterling Products Company, died in Chicago on August 26 after two months' illness.

James Shields Thompson, chairman of the board of the Waugh Equipment Company, New York, died on August 23 at his home in New York. Mr. Thompson was born at Crestline, Ohio, on May 21, 1873. After finishing his education at the Bucyrus, Ohio, high school, he entered railway service as a maintenance of way employee. Subsequently he engaged in various higher posts, including that of locomotive engineman, until he became a mechanical engineer, during which period he worked for several railroads, and served in the Spanish-American War. In 1901 he became associated with the Sargent Company which merged with the American Brake Shoe Company the following year to form the American Brake Shoe & Foundry Co. Mr. Thompson, in 1911, was elected a vice-president of the company



CRAIGMORE VIADUCT

EIRE

The Craigmore Viaduct of the Great Northern Railway of Ireland was designed by Sir John MacNeil and opened for the traffic of the Dublin and Belfast Junction Railway in 1852. It consists of 18 semi-circular arches 59½ ft. clear span each and has arch rings 3 ft. thick, with a width between parapets of 28 ft. inside, and a height above ground level, in middle of the structure, of 130 ft. The viaduct is straight at the south end but there is a curve of 66 chains over the north end. The curve is stated to have been introduced

by Sir John MacNeil to demonstrate to rival engineers that such a design was not beyond his capabilities, the original design having called for a straight viaduct slightly longer. * * * 28 years ago the American Arch Company demonstrated to the railroads the practicality of standardizing Arch tubes and Arch Brick sizes and designs. Today, although it has been constantly developed with progress in locomotive design, the Security Sectional Arch retains its basic design and is the standard on American railroads.

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and in 1921 was elected to its board of directors. In 1927, he was made vice-chairman of the board and when he resigned from the Brake Shoe Company in



James Shields Thompson

1929, he was also senior vice-president, as well as a member of the executive committee. During his association with the Brake Shoe Company, he was actively engaged in perfecting and developing many important railroad devices as well as a new composition for use in automobile and truck brake linings. During this period, Mr. Thompson was also an officer and director of the American Brake Materials Corporation; American Forge Company; American Plant and Building Company; American Malleables Company; American Manganese Steel Company; Eastern Steel Castings Company; Ramapo Ajax Corporation; Southern Foundry & Machine Company and Southern Wheel Company. Mr. Thompson gave up his active duties in the Brake Shoe Company in 1929 to found the Firebar Corporation, although he retained his position as vice-chairman of the board of directors of the Brake Shoe Company, until 1930 when he resigned that position in order to devote his full time to the Firebar Corporation at Cleveland, Ohio. In 1932, the Firebar Corporation was merged with the Waugh Equipment Company, of which Mr. Thompson became chairman of the board of directors.

Construction

BALTIMORE & OHIO.—A contract has been given to the Grinnell Company, Baltimore, Md., for renewal of its sprinkler systems on piers 6, 8 and 9, at Locust Point, Baltimore, to cost about \$50,000.

CHESAPEAKE & OHIO.—Contracts have been let by this road for improvements as follows: To Haley, Chisholm & Morris, Inc., Charlottesville, Va., for building storage warehouses at Morrison, Va., and to the Automatic Sprinkler Corporation of America, Richmond, Va., for the Sprinkler system at these warehouses; the total cost will be about \$170,000. To F. L. Shwalter, Inc., Lynchburg, Va., for building a brick residence for nurses at the hospital at Clifton Forge, Va., at a cost of about

\$110,000. To John P. Pettyjohn & Co., Lynchburg, for an oxy-acetylene plant at the locomotive shops to cost about \$25,000 and to C. L. Lewis, Lynchburg, for addition to warehouse, at Huntington, W. Va., to cost about \$31,600. The railroad company is also carrying out work with its own forces on an extension of yard track at Newport News, to cost about \$28,000, and to recap and rebuild pedestals of the Richmond viaduct at Richmond, Va., to cost about \$49,000. Plans are being made to ask for bids for a yard office building, underpass, tubes, etc., at Russell, Ky., to cost about \$164,100.

ERIE.—Specifications and an estimate of cost of contract work amounting to \$97,826 submitted by this road in connection with the elimination of a grade crossing in the town of Andover, N. Y., have been approved by the New York Public Service Commission. The railroad company's estimate and specifications have also been approved by the State Department of Public Works.

LONG ISLAND.—The Wilson & English Construction Company, New York, has been awarded the general contract for the elimination of the grade crossings on this road at Aqueduct, N. Y. See item in *Railway Age*, August 26, page 225.

MISSOURI-KANSAS-TEXAS.—A contract amounting to approximately \$10,000 has been awarded the Julian C. Feild Company, Denison, Tex., for 46,000 cu. yd. of excavation and the placing of metal drain pipe for three miles of spur track and two miles of sidings extending from the M-K-T main line at Reddam, just north of Denison, Tex., to the site of a new dam which will be constructed by the U. S. government across the Red river, north of Denison. Other work on the construction of this spur and sidings, including the construction of two timber trestles, will be completed by railroad forces, and the total cost, including cost of securing the right of way, will be about \$120,000.

NEW YORK CENTRAL.—The New York Public Service Commission has approved revised maps submitted by the New York Central in connection with the elimination of the highway-railroad grade crossings at Walden avenue and at Union road, in the town of Cheektowaga, N. Y. (see item in the April 1 issue of the *Railway Age*, page 593).

SOUTHERN.—This road has authorized the construction of a spur track to serve the Watts-Bar Dam of the Tennessee Valley Authority at Spring City, Tenn., which is estimated to cost \$84,400, and which will be constructed with the railroad company's own forces.

PERE MARQUETTE.—The Michigan State Highway Department has awarded a contract amounting to \$204,425 to L. A. Davidson, Lansing, Mich., for the construction of a highway underpass for U. S. highway No. 10 under two tracks of the Pere Marquette in Grand Blanc, Mich. The structure, which crosses the highway at an angle of 21 deg., will be 294 ft. long, will have a ballast deck, and will

consist of three through girder spans on two cantilever-type abutments and four pedestal type piers. The bridge will provide for two 22-ft. clear roadways for the highway, with a 10-ft. parting strip in the center and two 5-ft. sidewalks on each side.

VIRGINIAN.—The time within which this company shall complete the construction of a line of railroad in Wyoming County, W. Va. has been extended from September 1, 1939, to September 1, 1941, by Division 4 of the Interstate Commerce Commission.

THE WESTERN MARYLAND has given contracts to R. Murray, Moylan, Pa., for strengthening a steel bridge between Hagerstown, Md., and Cumberland, at a cost of about \$250,000; also for strengthening bridge No. 115, at Webster Springs, W. Va., at a cost of about \$25,000.

Financial

CHESAPEAKE & OHIO.—Tax Refund.—The United States Bureau of Internal Revenue has announced that this company was overassessed the following amounts: 1922, \$72,462; 1923, \$230,668; 1924, \$1,663. The overassessments resulted from the reallocation to the appropriate taxable years of certain items of income and deductions arising out of final settlement for the use and operation of the company's properties during the period of Federal control during the World War.

Although the company was overassessed in these amounts, yet the announcement of the Bureau goes on to point out that the overpayments will be credited against deficiencies in tax for other taxable years which were pending before the United States Board of Tax Appeals.

CHICAGO & EASTERN ILLINOIS.—Ratification of Appointment of Trustee.—The appointment of Benjamin Wham as sole trustee of this company has been ratified by the Division 4 of the Interstate Commerce Commission. Mr. Wham takes the position recently vacated by Charles M. Thomson, whose appointment as trustee of the Chicago & North Western was recently ratified by the commission.

Submission of Reorganization Plan.—Division 4 of the Interstate Commerce Commission has ordered that this company's plan of reorganization be submitted for acceptance or rejection to the holders of the first-consolidated mortgage six per cent bonds due October 1, 1934, to the holders of the general mortgage five per cent bonds due May 1, 1951, to the holders of certificates of deposit issued by the depositary designated by the protective committee for holders of such bonds, to the holders of the preferred stock of the company, and to the holders of claims against the company secured by collateral. The ballots must be returned to the commission by not later than November 7.

CHICAGO & NORTH WESTERN.—Equipment.—Charles M. Thomson, trustee of the Chicago & North Western, has filed a



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petition with the federal district court at Chicago seeking authority to pay in full, with cash, for the 19 streamlined passenger cars which will be used in the new "400," which will be placed in operation soon. The other car, a diner, would be placed under a 1937 equipment trust which has not been fully utilized. Mr. Thomson advised the court that it is not practical to finance the 20 passenger cars and the 800 freight cars which it intends to purchase, through one equipment trust. The passenger equipment will be delivered about September 15, he estimated, while the freight cars have not as yet been ordered. He said that it is not advisable to set up an equipment trust for the passenger cars only.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Abandonment.—Trustees of this road have applied to the Interstate Commerce Commission for authority to abandon a 35-mile branch line between Eldridge, Iowa, and Oxford Junction; and a 17-mile line between Wyoming, Iowa, and Monticello.

ERIE.—Acquisition and R. F. C. Loan.—This company has asked the Interstate Commerce Commission for authority to acquire control of the Cleveland & Mahoning Valley by purchase of its capital stock. The company would purchase from the Atlantic Leased Lines, Ltd., an English corporation, all the capital stock of the C. & M. V. of a par value of \$3,259,200 pursuant to contract for the sum of \$7,900,000, contingent upon its success in getting the Reconstruction Finance Corporation to make it a loan of \$7,500,000. At the same time the company applied to the commission for approval and to the Reconstruction Finance Corporation for the loan of \$7,500,000.

Previously, the Chicago & Erie, a subsidiary of the Erie, had made an application for the loan to acquire the stock of the C. & M. V., but due to certain complications in its negotiations with the R. F. C., it was decided that it would be preferable to have the parent company make the loan application and obtain authority to acquire the stock. Hearing on the application has been set by the commission for Sept. 5.

MISSOURI PACIFIC.—Equipment Trust Certificates.—This company has been granted authority by Division 4 of the Interstate Commerce Commission to assume liability for \$2,980,000 of 2¼ per cent equipment trust certificates, maturing in 10 equal annual installments of \$298,000 on September 1, in each of the years from 1940 to 1949, inclusive. The issue has been sold at 100.139 to Salomon Brothers & Hutzler, acting for itself and on behalf of Dick & Merle-Smith and Stroud & Co., making the average annual cost of the proceeds to the company approximately 2.22 per cent.

NEW YORK, NEW HAVEN & HARTFORD.—Submission of Plan for Reorganization of the Boston & Providence.—This company has been authorized to intervene in the reorganization of the Boston & Providence and has filed with the commission a plan for the revamping of the company. Under

the New Haven's proposed plan, it would issue the following reorganization securities:

(a) To the holder of the B. & P.'s debentures, \$2,305,453 principal amount of fixed interest bonds, being the total principal amount of the debtor's debentures plus accrued interest through December 31, 1939, after crediting thereon the \$81,547 cash now held in the sinking fund established under the lease for the retirement of the debentures, which cash will be distributed to the debenture holder in reduction of accrued interest. The 3,272 shares of the debtor's stock held in the sinking fund would be canceled.

(b) To holders of the balance of the debtor's stock (including the 5,246 shares owned by the New Haven and pledged with the Merchants National Bank of Boston) 20 per cent of the par value thereof in fixed interest bonds, 40 per cent in income bonds, and 40 per cent in new preferred stock.

In its plan, the New Haven pointed out that it will have a claim against the B. & P. for \$8,273,554 as of December 31, 1939, due to the deficits incurred in the operation of the property by the New Haven. The New Haven contends that it should operate the property after its own reorganization and adds that the B. & P. also thinks so as is evidenced by the fact that the B. & P.'s planning committee of its directors proposed a lease or sale of the properties to the New Haven although the terms proposed are not satisfactory to the New Haven.

NORFOLK & PORTSMOUTH BELT.—Promissory Notes.—This company has been granted authority by Division 4 of the Interstate Commerce Commission to issue \$700,000 of 1½ per cent promissory notes which will be exchanged for a like amount of 2½ per cent notes. At the same time Division 4 has authorized the Atlantic Coast Line, Southern, Chesapeake & Ohio, Pennsylvania, Seaboard Air Line, Norfolk & Western, Norfolk Southern, and Virginian to assume liability as guarantors of the notes.

RIO GRANDE SOUTHERN.—Receiver's Certificate.—This company has asked the Interstate Commerce Commission for authority to issue a \$50,000 receiver's certificate to be used as collateral for a Reconstruction Finance Corporation loan which was recently applied for, in that amount.

ST. LOUIS SOUTHWESTERN.—S. P. Claim.—Allowance of the claim of the Southern Pacific against the St. Louis Southwestern for \$17,882,250 and interest has been recommended by a special master in chancery in a report to the federal district court at St. Louis. The report follows hearings held last November on the claim, which was opposed by representatives of the Cotton Belt's bondholders, who contended that the Southern Pacific's claim should be disallowed because the road so dominated the Cotton Belt through its ownership of 87 per cent of the latter's stock that for practical purposes the two companies were one. The master's report states that the Southern Pacific and the Cotton Belt at

all times conducted their operations separately, kept separate books and funds and were never co-mingled. The report also states that the Southern Pacific, by reason of its stock control, owes no duty to the Cotton Belt to stand responsible for its debts.

The \$17,882,250 claimed by the Southern Pacific originally was in the form of a promissory note held by the Reconstruction Finance Corporation dated June 1, 1935, due December 1, 1935, and containing the written guarantee of the Southern Pacific. On July 13, 1936, the Southern Pacific paid the R. F. C. the full amount of the indebtedness and received an assignment of the note and the securities pledged by the Cotton Belt.

In a second report, the master recommended that objections of the Cotton Belt to foreign bondholders who seek to be paid in Dutch guilders be sustained. He also set October 30, 1939, as the deadline date on or before which exceptions to his reports may be filed, unless the time is extended by the federal court.

SOUTHERN.—Equipment Trust Certificates.—Division 4 of the Interstate Commerce Commission has revoked, at this company's request, its certificate of October 27, 1938, approving the purchase for itself by the Reconstruction Finance Corporation, at a price not in excess of their principal amount and accrued dividends, of \$500,000 of four per cent equipment trust certificates, series DD.

At the same time Division 4 has authorized this company to assume liability for \$400,000 of its two per cent equipment trust certificates, maturing in 10 equal annual installments of \$40,000 on September 1, in each of the years 1940, to 1949, inclusive. The issue has been sold at 100.0791 to Blyth & Co., Inc., of New York City, making the average annual cost of the proceeds to the company approximately 1.985 per cent.

Originally the company was authorized to issue \$500,000 of these certificates which were to bear interest at the rate of four per cent, but later it found that by adding an extra \$100,000 as a down payment on the equipment, it could sell the certificates to private investors at a lower rate than the four per cent asked by the R. F. C. Instead of paying only \$36,000 down and issuing \$500,000 of certificates, the Southern will now make a down payment of \$136,000 and will issue only \$400,000 of certificates.

Average Prices of Stocks and Bonds

	Aug. 29	Last week	Last year
Average price of 20 representative railway stocks...	27.80	27.83	28.18
Average price of 20 representative railway bonds...	54.44	58.17	59.79

Dividends Declared

Bangor & Aroostook.—50¢, quarterly; Preferred, \$1.25, quarterly, both payable October 1 to holders of record September 6.

Chesapeake & Ohio.—50¢, quarterly; Preferred, \$1.00, quarterly, both payable October 1 to holders of record September 8.

Dayton & Michigan.—87½¢, semi-annually, payable October 2 to holders of record September 15; 8 Per Cent Preferred, \$1.00, quarterly, payable October 3 to holders of record September 15.

Union Pacific.—\$1.50, payable October 2 to holders of record September 5; Preferred, \$2.00, semi-annually, payable October 2 to holders of record September 5.

Railway Officers

EXECUTIVE

Robert B. Ball, assistant general manager of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., has been promoted to vice-president and general manager, with the same headquarters, succeeding **Willis E. Maxson**, who retired on September 1.

Mr. Ball was born in Randolph County, Mo. on December 17, 1880, and graduated from Leland Stanford University in 1904. Previous to graduation, Mr. Ball served for a year in the engineering department of the Coast lines of the Santa Fe. In 1904, he re-entered the service of this company as an instrumentman being advanced to division engineer in 1910. Two years later, Mr. Ball was promoted to district engineer, with headquarters at Los Angeles, Cal., and in 1918, he was further promoted to chief engineer of the Coast



Robert B. Ball

lines. In 1929 he was transferred to Chicago as assistant chief engineer of the system, and on July 1, 1936, he was advanced to assistant general manager of the Gulf, Colorado & Santa Fe, with headquarters at Galveston.

FINANCIAL, LEGAL AND ACCOUNTING

Carleton S. Hadley, assistant general counsel for the trustee of the St. Louis Southwestern, with headquarters at St. Louis, Mo., has been appointed general counsel of the Terminal Railroad Association of St. Louis, with the same headquarters, succeeding **T. M. Pierce**, who has been appointed consulting counsel, a newly created position.

Jesse Newton Davis, whose promotion to general attorney on the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Seattle, Wash., was announced in the *Railway Age* of August 5, was born near Clearmont, Mo., on February 27, 1880. He graduated from Grand Island College, Grand Island, Neb., and in 1909, from the Chicago Kent College of Law. He was admitted to the Bar in the State of Il-

linois in 1909 and later took a major course in constitutional law at the University of Chicago in 1911-1912. He en-



Jesse Newton Davis

tered railway service on May 1, 1911, with the Chicago, Milwaukee & St. Paul as assistant general solicitor, which position he held until October 16, 1922, when he was appointed commerce counsel, the position he held until August 31, 1939, when he was promoted to general attorney with headquarters at Seattle. Mr. Davis served three years on the Executive committee of the Association of Practitioners before the Interstate Commerce Commission; was chairman of the Railroad Law committee for the Western district in the litigation before the Commission in Ex Parte 115 and Ex Parte 123; and defended the decision of the Interstate Commerce Commission in the Chicago Switching Case, I. C. C. Docket 19610, before the United States Supreme Court.

OPERATING

G. C. Baker has been appointed assistant superintendent of transportation on the Southern Pacific, with headquarters at San Francisco, Cal.

R. J. MacNamara, road foreman of engines, Wilkes-Barre division, Pennsylvania, with headquarters at Sunbury, Pa., has been appointed trainmaster in addition to his duties as road foreman of engines, with the same headquarters. **L. R. Doggett**, trainmaster, Wilkes-Barre division, has been appointed trainmaster of the Atlantic division, Pennsylvania-Reading Seashore Lines, with headquarters at Camden, N. J. **T. G. Griffin**, assistant trainmaster at Chicago, has been appointed assistant trainmaster, Maryland division, Canton yard, Baltimore, Md.

F. B. Whitman, assistant to the general manager of the Chicago, Burlington & Quincy, with headquarters at Omaha, Neb., has been promoted to superintendent, with headquarters at St. Joseph, Mo., succeeding **W. F. Giles**, who retired on September 1. **H. E. Hinshaw**, assistant superintendent, with headquarters at La Crosse, Wis., has been promoted to assistant to the general manager at Omaha, replacing Mr. Whitman, and **P. F. Thomas**, trainmaster at Hannibal, Mo.,

has been advanced to assistant superintendent at LaCrosse, relieving Mr. Hinshaw. **E. G. Wesson**, assistant signal engineer, with headquarters at Lincoln, Neb., has been promoted to trainmaster at Hannibal, succeeding Mr. Thomas.

J. J. Cowley, superintendent on the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., has been promoted to assistant general manager, with the same headquarters, succeeding **Robert B. Ball**, whose promotion to vice-president and general manager is announced elsewhere in these columns, and **Clarence R. Tucker**, superintendent, with headquarters at Temple, Tex., has been transferred to Galveston replacing Mr. Cowley. **Arthur B. Clements**, trainmaster at Brownwood, Tex., has been promoted to superintendent, with headquarters at Temple, relieving Mr. Tucker and **Marshall M. Killen**, trainmaster at Beaumont, Tex., has been transferred to Brownwood succeeding Mr. Clements. **Charles S. Neal**, assistant chief dispatcher at Beaumont, has been promoted to trainmaster at that point replacing Mr. Killen.

A. C. McCarthy, district supervisor of car service of the Grand Trunk Western, has been appointed superintendent of car service, with headquarters at Detroit, Mich. Mr. McCarthy was born at Detroit, Mich., on December 15, 1897, and entered the service of the Grand Trunk Western on November 1, 1918, as a demurrage inspector. On April 30, 1919, he was promoted to traveling inspector and on April 16, 1923, he was advanced to demurrage supervisor. He was further advanced to dis-



A. C. McCarthy

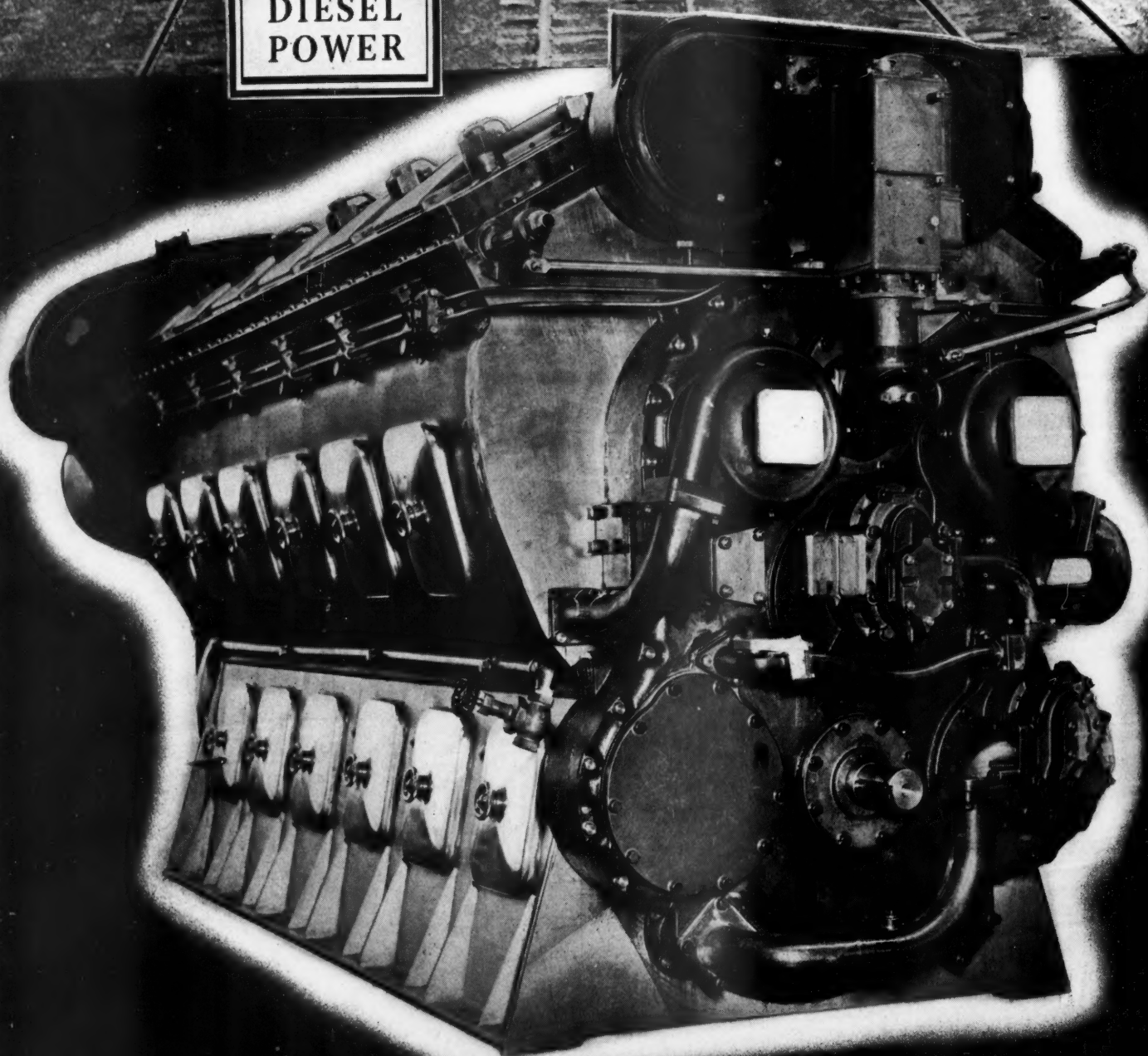
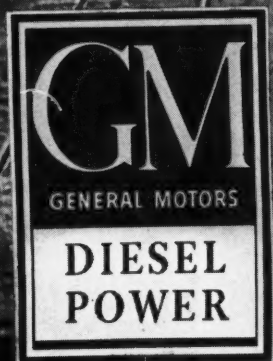
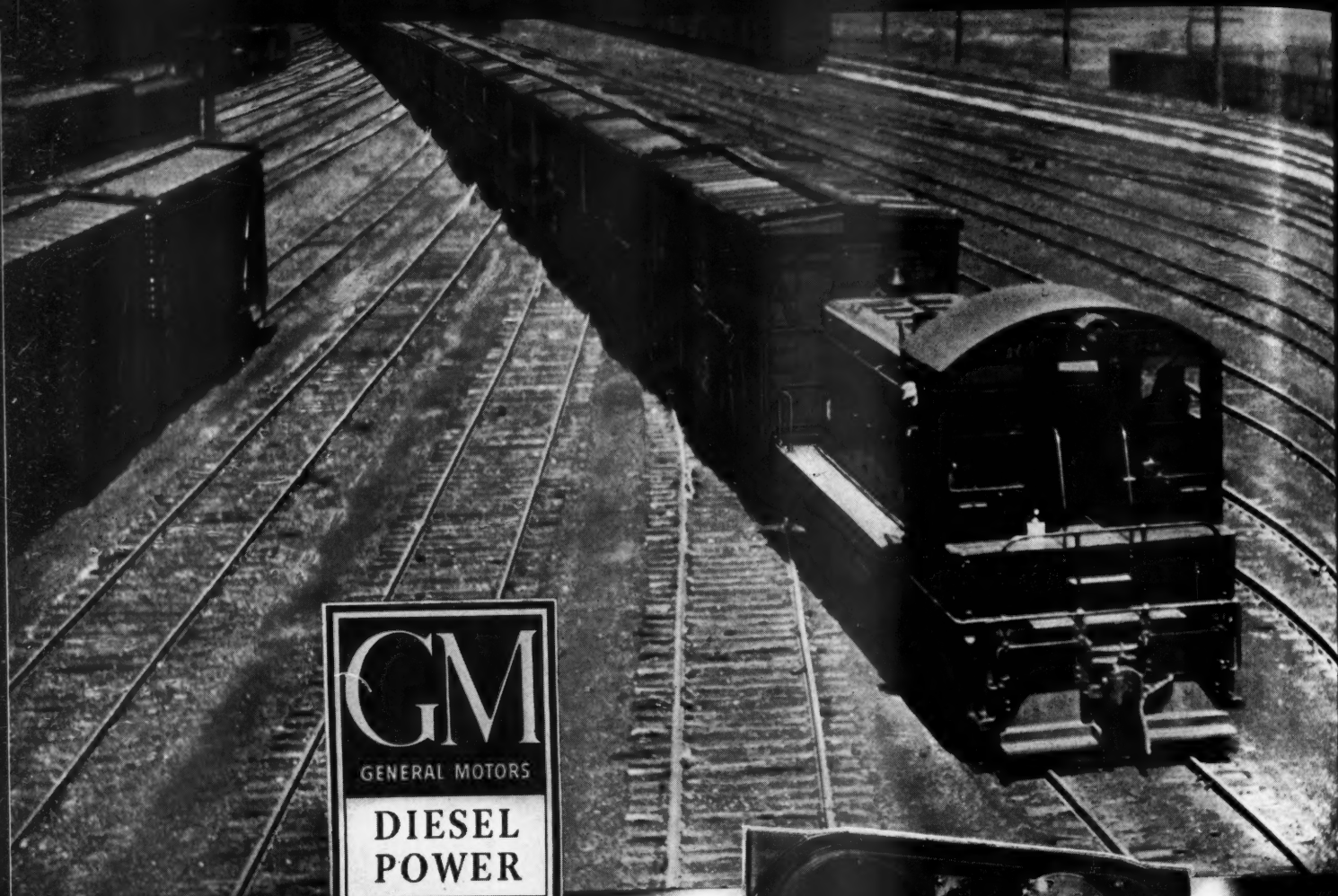
trict supervisor of car service on July 1, 1927, the position he held at the time of his recent promotion to superintendent of car service, with headquarters at Detroit.

TRAFFIC

Roy Thompson has been appointed general eastern agent for the Chicago, North Shore & Milwaukee and the Chicago, Aurora & Elgin, with headquarters at Chicago, a newly-created position.

Carl Jewell, freight traffic agent for the Nashville, Chattanooga & St. Louis at Kansas City, Mo., has been promoted to general agent at that point, succeeding

Continued on second left-hand page



For Economies **CHANGE TO EMC DIESELS**

EMC DIESELS have drastically reduced operating costs in switching service—Fuel expenses are slashed 75 per cent—Maintenance costs and enginehouse expenses reduced 50 per cent and 66 per cent respectively — and water costs eliminated entirely.

But even these do not reflect the full potential savings with EMC Diesels. Their 94 per cent availability, coupled with superior flexibility and faster switching, means fewer locomotives required to handle 24-hour daily operation. Their superior visibility also makes possible faster and smoother car movements with greater safety and reduced claims.

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LA GRANGE, ILLINOIS, U. S. A.



Homer Cain, whose death on August 15, is announced elsewhere in these columns.

W. M. Snow has been appointed general agent, freight department, New York Central system, with headquarters at San Francisco, Cal., to succeed **H. A. B. Brown**, who has been appointed division freight agent at Pittsburgh, Pa.

R. H. Doult, division freight agent on the New York Central at Pittsburgh, Pa., has been promoted to assistant general freight agent, with headquarters at Cleveland, Ohio, and **F. E. Lewis**, division freight agent at Cleveland, has been appointed industrial agent, with the same headquarters, succeeding **E. J. Dowie**, who retired on September 1.

Thomas E. McAndrews, foreign freight traffic manager of the Erie, with headquarters at New York, has been appointed freight traffic manager of the eastern territory in charge of solicitation, with the same headquarters, succeeding **C. L. Chapman**, who has been appointed general baggage, mail and express agent at New York, to succeed **Henry M. Wade**, who has retired after 30 years service with the Erie. Mr. McAndrews will continue the duties of his former post. **Louis E. Newman**, commercial agent at Chicago, has been appointed general agent at Albany, N. Y., succeeding **Charles F. Whadcook**, who has been appointed division freight agent at Elmira, N. Y. Mr. Whadcook succeeds **Bernard F. Conway**, who has been appointed general agent at Philadelphia, Pa., succeeding **Heusted T. Young**, who, at his own request, has been appointed assistant general agent at Philadelphia.

Harold L. Skeen, commercial agent on the Erie at San Francisco, Cal., has been promoted to general agent at Portland, Ore., replacing **Joseph A. Russell**, who has been transferred to Los Angeles, Cal., succeeding **L. A. Dwelle**, who retired on September 1. **Eugene W. Burnett**, commercial agent at Toledo, Ohio, has been promoted to general agent at New Orleans, La., relieving **Dwight C. Kelsey**, who has been transferred to St. Louis, Mo., replacing **G. F. Daniels**, who has retired. **William L. Thornton**, commercial agent at Atlanta, Ga., has been advanced to general agent at Birmingham, Ala., succeeding **Charles G. Andrews**, who has been transferred to Atlanta, relieving **S. S. Torrey**, who has retired. **Leon Marion**, commercial agent at St. Louis, Mo., has been promoted to general agent at Dallas, Tex., replacing **T. J. Martin**, who has retired, and **Raymond J. Dundon**, commercial agent at Seattle, Wash., has been advanced to general agent at that point, succeeding **W. R. Sibley**, who has retired.

Elmer B. Johnson, whose promotion, effective September 1, to general freight and passenger agent on the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., was announced in the *Railway Age* of August 19, was born in Oakland, Cal., and entered the service of the Santa Fe in the freight traffic office at San Francisco in May, 1910. He continued in

various clerical capacities in both the Oakland and San Francisco traffic offices until May, 1927, when he was appointed general agent, freight and passenger departments,



Elmer B. Johnson

at Sacramento, Cal., and in September, 1929, he was appointed industrial agent, with headquarters at San Francisco. Mr. Johnson was promoted to assistant general freight agent at that point in September, 1936, the position he held at the time of his recent promotion.

Berne Levy, whose promotion to general freight agent on the Atchison, Topeka & Santa Fe, with headquarters at San Francisco, Cal., was announced in the *Railway Age* of August 19, was born at Los Angeles, Cal., on October 29, 1885, and entered railway service on June 24, 1902, in the audit office of the Santa Fe at Los Angeles, subsequently serving in various clerical positions. On January 1, 1910, he was transferred to the freight traffic department in Los Angeles as tariff clerk and on June 30, 1913, he was promoted to head local rate clerk at San Francisco. In December, 1917, Mr. Levy was advanced to chief rate clerk and on March 1, 1920, he was promoted to chief clerk to the assistant freight traffic manager. He was advanced to assistant general



Berne Levy

freight agent on September 1, 1921, and on September 1, 1936, he was appointed assistant general manager of the department of highway motor transport of the

Santa Fe, and manager of the Santa Fe Transportation Company, with headquarters at Los Angeles. Mr. Levy was appointed assistant general manager of the Santa Fe Transportation Company and of the Santa Fe Trail Transportation Company, with the same headquarters, on July 1, 1938, and held these positions until his recent promotion to general freight agent.

ENGINEERING AND SIGNALING

Charles Harry Fox, whose promotion to district engineer of the Saskatchewan district of the Canadian Pacific, with headquarters at Moose Jaw, Sask., was announced in the *Railway Age* of August 12, was born at Winnipeg, Man., on April 2, 1885, and studied at McGill University where he obtained a master of science degree in civil engineering in 1910. He entered railway service in 1902 as a clerk in the construction department of the Canadian Pacific at Winnipeg and in 1903, he was appointed a rodman in the maintenance engineering department at Brandon, Man. From 1905 to 1910, he attended Mc-



Charles Harry Fox

Gill University and served during the summer months as instrumentman and later as resident engineer on construction work and was appointed resident engineer in the maintenance department at Fort William, Ont., following his graduation. From 1912 to 1915, he was assistant division engineer of the Manitoba division, with headquarters at Winnipeg and in the latter part of 1915 he was promoted to division engineer at Winnipeg, continuing in that capacity until 1918, when he entered military service. Mr. Fox returned to the Canadian Pacific in 1919 as division engineer of the Regina and Saskatoon divisions. In 1920, he was advanced to assistant district engineer, with headquarters at Winnipeg, and in 1921, he was reappointed division engineer at Winnipeg. Mr. Fox was promoted to engineer of water service, with headquarters at Winnipeg in May, 1923, the position he held until his recent promotion.

OBITUARY

Homer Cain, general agent for the Nashville, Chattanooga & St. Louis at Kansas City, Mo., died on August 15.